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(54) Title: NUCLEIC ACIDS, PROTEINS, AND ANTIBODIES

(57) Abstract: The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to these novel polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

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(71) **Applicant** *(for all designated States except US)*: **HUMAN GENOME SCIENCES, INC.** [US/US]; 9410 Key West Avenue, Rockville, MD 20850 (US).

(72) **Inventors; and**

(75) **Inventors/Applicants** *(for US only)*: **ROSEN, Craig, A.** [US/US]; 22400 Rolling Hill Lane, Laytonsville, MD 20882 (US). **BARASH, Steven, C.** [US/US]; 111 Watkins Pond Boulevard #301, Rockville, MD 20850 (US). **RUBEN, Steven, M.** [US/US]; 18528 Heritage Hills Drive, Olney, MD 20832 (US).

(74) **Agents: HOOVER, Kenley, K.** et al.; Human Genome Sciences, Inc., 9410 Key West Avenue, Rockville, MD 20850 (US).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Nucleic Acids, Proteins, and Antibodies

[1] This application refers to a "Sequence Listing" that is provided only on electronic media in computer readable form pursuant to Administrative Instructions Section 801(a)(i). The Sequence Listing forms a part of this description pursuant to Rule 5.2 and Administrative Instructions Sections 801 to 806, and is hereby incorporated in its entirety.

[2] The Sequence Listing is provided as an electronic file (PTZ13PCT_seqList.txt, 5,421,455 bytes in size, created on January 13, 2001) on four identical compact discs (CD-R), labeled "COPY 1," "COPY 2," "COPY 3," and "CRF." The Sequence Listing complies with Annex C of the Administrative Instructions, and may be viewed, for example, on an IBM-PC machine running the MS-Windows operating system by using the V viewer software, version 2000 (see World Wide Web URL: http://www.fileviewer.com).

Field of the Invention

[3] The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to

these novel polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

Background of the Invention

[4] Enzymes comprise a large subset of proteins which function as catalysts for biochemical reactions. In fact, virtually every biochemical reaction involves the catalytic activity of an enzyme or enzymes. Most enzymes are located intracellularly, but there are a number of enzyme families which are either secreted into the extracellular space, or associated with the plasma membrane. Some enzymes, including the secreted digestive enzymes trypsin and pepsin, are produced as inactive precursors called zymogens, which require chemical modification to become active. In many cases, the catalytic activity of an enzyme depends on its association with a cofactor. Cofactors may be organic molecules, termed coenzymes, or metal ions. Many coenzymes are derived from vitamins.

[5] Enzymes contain two important functional units: the substrate binding site, and the catalytic site. The substrate-binding site consists of a cleft which is geometrically complementary to the shape of the preferred substrate. In addition, the amino acid residues which form the substrate binding site have noncovalent interactions with the amino acids of the complementary substrate region. The catalytic site is the portion of the molecule that facilitates the biochemical reaction once the substrate is bound to the enzyme. For a more extensive discussion of enzyme properties, see Biochemistry, Voet and Voet (1990); and Molecular Cell Biology, 2nd Edition, Darnell et al. (1990).

[6] The International Union of Biochemistry and Molecular Biology (IUBMB) has established enzyme nomenclature guidelines to provide an organizational framework to the growing field of enzymology (see Enzyme Nomenclature, Academic Press (1992), or the IUBMB Nomenclature Committee web site at the URL address: http://www.chem.qmw.ac.uk/iubmb/enzyme). According to the IUBMB guidelines, all enzymes can be categorized by the chemical reaction they catalyze. Documented enzymes are assigned an identifier which takes the form of "EC [*A.B.C.D*]", where A is one of the major functional classes of enzymes (1 through 6; see below); B and C designate increasingly specific

subgroups of enzymatic reactions; and D represents the arbitrary number of an individual member of a given category. As an example, the enzyme acetylcholinesterase is designated EC 3.1.1.7, because it is a member of the class of hydrolases (EC 3.-.-.-), acting on ester bonds (EC 3.1.-.-), in the subgroup of carboxylic ester hydrolases (EC 3.1.1.-), and it is assigned number 7. Descriptions of the six major functional classes, including notable examples of each, follow below.

Oxidoreductases (EC 1.-.-.-)

[7] Enzymes of this class catalyze oxidation-reduction reactions. Sub-classification is according to the substrate group oxidized (e.g., CH-OH, CH-CH, and CH-NH_2, to name but a few). A representative member of this enzyme class is long-chain-alcohol dehydrogenase (EC 1.1.1.192), which is involved in lipid metabolism. Deficient activity of this enzyme has been shown to be the primary cause of Sjogren-Larsson syndrome, an autosomal recessive disorder characterized by the presence of ichthyosis, mental retardation, and spasticity (Rizzo *et al., J. Clin. Invest.* 81: 738-744 (1988).

Transferases (EC 2.-.-.-)

[8] Catalytic reactions of transferases are characterized by the transfer of a chemical group from a "donor" molecule to an "acceptor" molecule. Transferases can be subgrouped according to the chemical group transferred. For example, amino transferases (EC 2.6.-.-) transfer nitrogenous groups, and methyltranferases (EC 2.1.1.-) transfer methyl groups. Often the transferred group is donated by a coenzyme. A major subgroup of transferase enzymes are the protein kinases (EC 2.7.-.-), which catalyze the transfer of a phosphate group from ATP to a substrate protein. Protein kinases, such as calcium/calmodulin dependent (CaM) kinase II (EC 2.7.1.123), are known to play important roles in signal transduction pathways (Kennedy , *Brain Res Brain Res Rev* 26(2-3):243-57 (1998)). Other transferases are involved in metabolic processes. For example, guanidinoacetate N-methyltransferase (GAMT; EC 2.1.1.2), converts guanidinoacetate into creatine, which is essential for the maintenance of energy reserves in the form of ATP. GAMT deficiency causes neurological impairments which may include progressive extrapyramidal movement disorders, seizures, developmental delay, and muscular dystonia (Stockler et al., *Pediat. Res.* 36:409-413 (1994).

Hydrolases (EC 3.-.-.-)

[9] Enzymes of this class catalyze the splitting of a substrate into two fragments by the addition of a water molecule; the water's hydroxyl group being incorporated in one fragment and the hydrogen atom in the other. Hydrolases can be subcategorized according to the chemical bond involved. For example, peptidases (EC 3.4.-.-; also known as proteases) are hydrolases which catalyze the breaking of peptide bonds. Pepsin (EC 3.4.23.1), a digestive protease which has been implicated in a number of gastrointestinal disorders, is an example of a proteolytic hydrolase enzyme (see, for example, Hirschowitz, *Yale J. Biol. Med.* 72(2-3):133-43 (1999), and Del Bianco et al., *Dig. Liver Dis.* 32(1):12-9 (2000)). Deficient activity of beta-glucocerebrosidase (EC 3.2.1.45), an O-glycosyl hydrolase, is associated with Gaucher's disease. Symptoms of Gaucher's disease include bone lesions, skin pigmentation, enlargement of the liver and spleen, and, in some cases, neurological impairments.

Lyases (EC 4.-.-.-)

[10] Lyases cleave C-C, C-O, C-N, and other bonds by means other than hydrolysis or oxidation. The reverse reaction is performed by a synthetase. Histidine decarboxylase (EC 4.1.1.22) is a carboxy-lyase that converts histidine to histamine, a biogenic amine involved in a number of physiologic processes, including inflammation, allergic responses, neurotransmission, and gastric acid secretion. The phosphorus-oxygen lyase, adenylate cyclase (EC 4.6.1.1), is an intracellular enzyme which acts on ATP to form adenosine 3' ,5' -cyclic phosphate (cAMP), a second messenger activator of protein kinase activity.

Isomerases (EC 5.-.-.-)

[11] Members of this class of enzymes catalyze geometric or structural changes within a molecule to form an isomer. Subclasses of isomerases include racemases / epimerases (EC 5.1.-.-), *cis-trans*- isomerases (EC 5.2.-.-), intramolecular isomerases (EC 5.3.-.-), intramolecular transferases (EC 5.4.-.-), and intramolecular lyases (EC 5.5.-.-). Protein disulfide isomerase (PDI; EC 5.3.4.1) catalyzes the intramolecular rearrangement of disulfide bonds, thus contributing to the folding of newly-synthesized proteins at the endoplasmic reticulum (see, for example, Luz and Lennarz, *EXS* 77:97-117 (1996)). Autoantibodies to PDI have been implicated in hepatic disorders (Nagayama et al., *J Toxicol Sci* Aug;19(3):163-9 (1994)).

Ligases (EC 6.-.-.-)

[12] Ligase enzymes catalyze the formation of a bond between two substrate molecules, coupled with the hydrolysis of a pyrophosphate bond in ATP or a similar triphosphate. A well characterized example of this class is DNA ligase 1 (EC 6.5.1.1), which catalyzes the joining of DNA fragments (via the formation of a phosphodiester bond) during DNA replication, recombination, and repair. Mutations in the gene encoding DNA ligase 1 have been linked to immunodeficiency disorders and hypersensitivity to DNA-damaging agents (Barnes et al., *Cell*, 69, 495–503 (1992)).

[13] The discovery of new human enzyme polynucleotides, the polypeptides encoded by them, and antibodies that immunospecifically bind these polypeptides, satisfies a need in the art by providing new compositions which are useful in the diagnosis, treatment, prevention and/or prognosis of a range of conditions, including but not limited to cancer, immunodeficiencies, neurological disorders, and metabolic disorders.

Summary of the Invention

[14] The present invention relates to novel proteins. More specifically, isolated nucleic acid molecules are provided encoding novel polypeptides. Novel polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human polynucleotides and/or polypeptides, and antibodies. The invention further relates to diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to these novel polypeptides. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The present invention further relates to methods and/or compositions for inhibiting or enhancing the production and function of the polypeptides of the present invention.

Detailed Description

Tables

[15] Table 1A summarizes some of the polynucleotides encompassed by the invention (including cDNA clones related to the sequences (Clone ID NO:Z), contig sequences (contig identifier (Contig ID:) and contig nucleotide sequence identifier (SEQ ID NO:X)) and further summarizes certain characteristics of these polynucleotides and the polypeptides encoded thereby. The first column provides the gene number in the application for each clone identifier. The second column provides a unique clone identifier, "Clone ID NO:Z", for a cDNA clone related to each contig sequence disclosed in Table 1A. The third column provides a unique contig identifier, "Contig ID:" for each of the contig sequences disclosed in Table 1A. The fourth column provides the sequence identifier, "SEQ ID NO:X", for each of the contig sequences disclosed in Table 1A. The fifth column, "ORF (From-To)", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence of SEQ ID NO:X that delineate the preferred open reading frame (ORF) that encodes the amino acid sequence shown in the sequence listing and referenced in Table 1A as SEQ ID NO:Y (column 6). Column 7 lists residues comprising predicted epitopes contained in the polypeptides encoded by each of the preferred ORFs (SEQ ID NO:Y). Identification of potential immunogenic regions was performed according to the method of Jameson and Wolf (CABIOS, 4; 181-186 (1988)); specifically, the Genetics Computer Group (GCG) implementation of this algorithm, embodied in the program PEPTIDESTRUCTURE (Wisconsin Package v10.0, Genetics Computer Group (GCG), Madison, Wisc.). This method returns a measure of the probability that a given residue is found on the surface of the protein. Regions where the antigenic index score is greater than 0.9 over at least 6 amino acids are indicated in Table 1A as "Predicted Epitopes". In particular embodiments, polypeptides of the invention comprise, or alternatively consist of, one, two, three, four, five or more of the predicted epitopes described in Table 1A. It will be appreciated that depending on the analytical criteria used to predict antigenic determinants, the exact address of the determinant may vary slightly. Column 8, "Tissue Distribution" shows the expression profile of tissue, cells, and/or cell line libraries which express the polynucleotides of the invention. The first number in column 8 (preceding the colon), represents the tissue/cell source identifier code corresponding to the key provided in

Table 4. Expression of these polynucleotides was not observed in the other tissues and/or cell libraries tested. For those identifier codes in which the first two letters are not "AR", the second number in column 8 (following the colon), represents the number of times a sequence corresponding to the reference polynucleotide sequence (e.g., SEQ ID NO:X) was identified in the tissue/cell source. Those tissue/cell source identifier codes in which the first two letters are "AR" designate information generated using DNA array technology. Utilizing this technology, cDNAs were amplified by PCR and then transferred, in duplicate, onto the array. Gene expression was assayed through hybridization of first strand cDNA probes to the DNA array. cDNA probes were generated from total RNA extracted from a variety of different tissues and cell lines. Probe synthesis was performed in the presence of ^{33}P dCTP, using oligo(dT) to prime reverse transcription. After hybridization, high stringency washing conditions were employed to remove non-specific hybrids from the array. The remaining signal, emanating from each gene target, was measured using a Phosphorimager. Gene expression was reported as Phosphor Stimulating Luminescence (PSL) which reflects the level of phosphor signal generated from the probe hybridized to each of the gene targets represented on the array. A local background signal subtraction was performed before the total signal generated from each array was used to normalize gene expression between the different hybridizations. The value presented after "[array code]:" represents the mean of the duplicate values, following background subtraction and probe normalization. One of skill in the art could routinely use this information to identify normal and/or diseased tissue(s) which show a predominant expression pattern of the corresponding polynucleotide of the invention or to identify polynucleotides which show predominant and/or specific tissue and/or cell expression. Column 9 provides the chromosomal location of polynucleotides corresponding to SEQ ID NO:X. Chromosomal location was determined by finding exact matches to EST and cDNA sequences contained in the NCBI (National Center for Biotechnology Information) UniGene database. Given a presumptive chromosomal location, disease locus association was determined by comparison with the Morbid Map, derived from Online Mendelian Inheritance in Man (Online Mendelian Inheritance in Man, OMIM™. McKusick-Nathans Institute for Genetic Medicine, Johns Hopkins University (Baltimore, MD) and National Center for Biotechnology Information, National Library of Medicine (Bethesda, MD) 2000. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/). If the putative chromosomal location of the Query overlaps with the chromosomal location of a Morbid Map entry, an OMIM identification

number is disclosed in column 10 labeled "OMIM Disease Reference(s)". A key to the OMIM reference identification numbers is provided in Table 5.

[16] Table 1B summarizes additional polynucleotides encompassed by the invention (including cDNA clones related to the sequences (Clone ID NO:Z), contig sequences (contig identifier (Contig ID:) contig nucleotide sequence identifiers (SEQ ID NO:X)), and genomic sequences (SEQ ID NO:B). The first column provides a unique clone identifier, "Clone ID NO:Z", for a cDNA clone related to each contig sequence. The second column provides the sequence identifier, "SEQ ID NO:X", for each contig sequence. The third column provides a unique contig identifier, "Contig ID:" for each contig sequence. The fourth column, provides a BAC identifier "BAC ID NO:A" for the BAC clone referenced in the corresponding row of the table. The fifth column provides the nucleotide sequence identifier, "SEQ ID NO:B" for a fragment of the BAC clone identified in column four of the corresponding row of the table. The sixth column, "Exon From-To", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence of SEQ ID NO:B which delineate certain polynucleotides of the invention that are also exemplary members of polynucleotide sequences that encode polypeptides of the invention (e.g., polypeptides containing amino acid sequences encoded by the polynucleotide sequences delineated in column six, and fragments and variants thereof).

[17] Table 2 summarizes homology and features of some of the polypeptides of the invention. The first column provides a unique clone identifier, "Clone ID NO:Z", corresponding to a cDNA clone disclosed in Table 1A. The second column provides the unique contig identifier, "Contig ID:" corresponding to contigs in Table 1A and allowing for correlation with the information in Table 1A. The third column provides the sequence identifier, "SEQ ID NO:X", for the contig polynucleotide sequence. The fourth column provides the analysis method by which the homology/identity disclosed in the Table was determined. Comparisons were made between polypeptides encoded by the polynucleotides of the invention and either a non-redundant protein database (herein referred to as "NR"), or a database of protein families (herein referred to as "PFAM") as further described below. The fifth column provides a description of the PFAM/NR hit having a significant match to a polypeptide of the invention. Column six provides the accession number of the PFAM/NR hit disclosed in the fifth column. Column seven, "Score/Percent Identity", provides a quality score or the percent identity, of the hit disclosed in columns five and six. Columns 8 and 9, "NT From" and "NT To" respectively, delineate the polynucleotides in "SEQ ID NO:X"

that encode a polypeptide having a significant match to the PFAM/NR database as disclosed in the fifth and sixth columns. In specific embodiments polypeptides of the invention comprise, or alternatively consist of, an amino acid sequence encoded by a polynucleotide in SEQ ID NO:X as delineated in columns 8 and 9, or fragments or variants thereof.

[18] The PFAM identification disclosed in Table 2, columns 5 and 6, communicates both the function and enzymatic activity of polypeptides corresponding to the PFAM. Extensive documentation on PFAM families and individual members of these families are maintained in publicly accessible databases (see, for example the Sanger Centre PFAM web server at http://www.sanger.ac.uk/ for a searchable PFAM database). Using this information, and included links to PROSITE, SWISSPROT, GenBank, and other sequence databases, one can routinely assign an EC (Enzyme Commission) code to the polypeptides. The EC code consists of 4 integers separated by decimal points that are used to classify enzymes, and indicate important information about cellular function and enzyme mechanism. The first digit indicates a broad group of enzyme mechanism (i.e.1=oxidoreductases, 2=transferases). The second digit indicates the type of substrate the enzyme acts upon or a broad subcategory of the enzyme type (i.e. EC 1.6 oxidoreductases acting on NADH or NADPH, or 5.1=racemases and epimerases, a subtype of EC 5=isomerases). The third digit is used to distinguish further characteristics (EC 1.1.1 oxidoreductases acting on the CH-OH group of donors with NAD or NADP as the acceptor, versus EC 1.1.2 where a cytochrome acts as the acceptor) or is simply assigned as 1 for the all entries where further clarification is unnecessary (all members of EC 4.1, carbon-carbon lyases are in group 4.1.1). The final number designates a specific enzyme, for instance, EC 4.1.1.1 pyruvate decarboxylase, or EC 1.1.1.1 alcohol dehydrogenase. Thus, if all of the source sequences for the PFAM have EC codes of the form 1.1.3.X, where X is a positive integer, the polypeptide being evaluated is likely to have a similar EC code, and, in this example, will likely be an oxidoreductase acting on the CH-OH group of donors with oxygen as an acceptor.

[19] Furthermore, knowledge of PFAM identification and/or EC code for a polypeptide communicates enzymatic activity of the protein. This activity can routinely be confirmed using or modifying assays known in the art. Additionally, these assays may routinely be applied or modified to evaluate the enzymatic activity of fragments and variants of the invention. Further, these assays may routinely be applied or modified to

evaluate the ability of agonists or antagonists of the invention (e.g., agonistic or antagonistic antibodies) to enhance or reduce this enzymatic activity, respectively.

[20] Table 3 provides polynucleotide sequences that may be disclaimed according to certain embodiments of the invention. The first column provides a unique clone identifier, "Clone ID", for a cDNA clone related to contig sequences disclosed in Table 1A. The second column provides the sequence identifier, "SEQ ID NO:X", for contig sequences disclosed in Table 1A. The third column provides the unique contig identifier, "Contig ID:", for contigs disclosed in Table 1A. The fourth column provides a unique integer 'a' where 'a' is any integer between 1 and the final nucleotide minus 15 of SEQ ID NO:X, and the fifth column provides a unique integer 'b' where 'b' is any integer between 15 and the final nucleotide of SEQ ID NO:X, where both a and b correspond to the positions of nucleotide residues shown in SEQ ID NO:X, and where b is greater than or equal to a + 14. For each of the polynucleotides shown as SEQ ID NO:X, the uniquely defined integers can be substituted into the general formula of a-b, and used to describe polynucleotides which may be preferably excluded from the invention. In certain embodiments, preferably excluded from the invention are at least one, two, three, four, five, ten, or more of the polynucleotide sequence(s) having the accession number(s) disclosed in the sixth column of this Table (including for example, published sequence in connection with a particular BAC clone). In further embodiments, preferably excluded from the invention are the specific polynucleotide sequence(s) contained in the clones corresponding to at least one, two, three, four, five, ten, or more of the available material having the accession numbers identified in the sixth column of this Table (including for example, the actual sequence contained in an identified BAC clone).

[21] Table 4 provides a key to the tissue/cell source identifier code disclosed in Table 1A, column 8. Column 1 provides the tissue/cell source identifier code disclosed in Table 1A, Column 8. Columns 2-5 provide a description of the tissue or cell source. Codes corresponding to diseased tissues are indicated in column 6 with the word "disease". The use of the word "disease" in column 6 is non-limiting. The tissue or cell source may be specific (e.g. a neoplasm), or may be disease-associated (e.g., a tissue sample from a normal portion of a diseased organ). Furthermore, tissues and/or cells lacking the "disease" designation may still be derived from sources directly or indirectly involved in a disease state or disorder, and therefore may have a further utility in that disease state or disorder. In numerous cases where the tissue/cell source is a library, column 7 identifies the vector used

to generate the library.

[22] Table 5 provides a key to the OMIM reference identification numbers disclosed in Table 1A, column 10. OMIM reference identification numbers (Column 1) were derived from Online Mendelian Inheritance in Man (Online Mendelian Inheritance in Man, OMIM. McKusick-Nathans Institute for Genetic Medicine, Johns Hopkins University (Baltimore, MD) and National Center for Biotechnology Information, National Library of Medicine, (Bethesda, MD) 2000. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/). Column 2 provides diseases associated with the cytologic band disclosed in Table 1A, column 9, as determined using the Morbid Map database.

[23] Table 6 summarizes ATCC Deposits, Deposit dates, and ATCC designation numbers of deposits made with the ATCC in connection with the present application.

[24] Table 7 shows the cDNA libraries sequenced, and ATCC designation numbers and vector information relating to these cDNA libraries.

[25] Table 8 provides a physical characterization of clones encompassed by the invention. The first column provides the unique clone identifier, "Clone ID NO:Z", for certain cDNA clones of the invention, as described in Table 1A. The second column provides the size of the cDNA insert contained in the corresponding cDNA clone.

Definitions

[26] The following definitions are provided to facilitate understanding of certain terms used throughout this specification.

[27] In the present invention, "isolated" refers to material removed from its original environment (e.g., the natural environment if it is naturally occurring), and thus is altered "by the hand of man" from its natural state. For example, an isolated polynucleotide could be part of a vector or a composition of matter, or could be contained within a cell, and still be "isolated" because that vector, composition of matter, or particular cell is not the original environment of the polynucleotide. The term "isolated" does not refer to genomic or cDNA libraries, whole cell total or mRNA preparations, genomic DNA preparations (including those separated by electrophoresis and transferred onto blots), sheared whole cell genomic DNA preparations or other compositions where the art demonstrates no distinguishing features of the polynucleotide/sequences of the present invention.

[28] As used herein, a "polynucleotide" refers to a molecule having a nucleic acid sequence encoding SEQ ID NO:Y or a fragment or variant thereof; a nucleic acid sequence contained in SEQ ID NO:X (as described in column 3 of Table 1A) or the complement thereof; a cDNA sequence contained in Clone ID NO:Z (as described in column 2 of Table 1A and contained within a library deposited with the ATCC); a nucleotide sequence encoding the polypeptide encoded by a nucleotide sequence in SEQ ID NO:B as defined in column 6 of Table 1B or a fragment or variant thereof; or a nucleotide coding sequence in SEQ ID NO:B as defined in column 6 of Table 1B or the complement thereof. For example, the polynucleotide can contain the nucleotide sequence of the full length cDNA sequence, including the 5' and 3' untranslated sequences, the coding region, as well as fragments, epitopes, domains, and variants of the nucleic acid sequence. Moreover, as used herein, a "polypeptide" refers to a molecule having an amino acid sequence encoded by a polynucleotide of the invention as broadly defined (obviously excluding poly-Phenylalanine or poly-Lysine peptide sequences which result from translation of a polyA tail of a sequence corresponding to a cDNA).

[29] In the present invention, "SEQ ID NO:X" was often generated by overlapping sequences contained in multiple clones (contig analysis). A representative clone containing all or most of the sequence for SEQ ID NO:X is deposited at Human Genome Sciences, Inc. (HGS) in a catalogued and archived library. As shown, for example, in column 2 of Table 1A, each clone is identified by a cDNA Clone ID (identifier generally referred to herein as Clone ID NO:Z). Each Clone ID is unique to an individual clone and the Clone ID is all the information needed to retrieve a given clone from the HGS library. Furthermore, certain clones disclosed in this application have been deposited with the ATCC on October 5, 2000, having the ATCC designation numbers PTA 2574 and PTA 2575; and on January 5, 2001, having the depositor reference numbers TS-1, TS-2, AC-1, and AC-2. In addition to the individual cDNA clone deposits, most of the cDNA libraries from which the clones were derived were deposited at the American Type Culture Collection (hereinafter "ATCC"). Table 7 provides a list of the deposited cDNA libraries. One can use the Clone ID NO:Z to determine the library source by reference to Tables 6 and 7. Table 7 lists the deposited cDNA libraries by name and links each library to an ATCC Deposit. Library names contain four characters, for example, "HTWE." The name of a cDNA clone (Clone ID) isolated from that library begins with the same four characters, for example "HTWEP07". As mentioned below, Table 1A correlates the Clone ID names with SEQ ID NO:X. Thus,

starting with an SEQ ID NO:X, one can use Tables 1, 6 and 7 to determine the corresponding Clone ID, which library it came from and which ATCC deposit the library is contained in. Furthermore, it is possible to retrieve a given cDNA clone from the source library by techniques known in the art and described elsewhere herein. The ATCC is located at 10801 University Boulevard, Manassas, Virginia 20110-2209, USA. The ATCC deposits were made pursuant to the terms of the Budapest Treaty on the international recognition of the deposit of microorganisms for the purposes of patent procedure.

[30] In specific embodiments, the polynucleotides of the invention are at least 15, at least 30, at least 50, at least 100, at least 125, at least 500, or at least 1000 continuous nucleotides but are less than or equal to 300 kb, 200 kb, 100 kb, 50 kb, 15 kb, 10 kb, 7.5kb, 5 kb, 2.5 kb, 2.0 kb, or 1 kb, in length. In a further embodiment, polynucleotides of the invention comprise a portion of the coding sequences, as disclosed herein, but do not comprise all or a portion of any intron. In another embodiment, the polynucleotides comprising coding sequences do not contain coding sequences of a genomic flanking gene (i.e., 5' or 3' to the gene of interest in the genome). In other embodiments, the polynucleotides of the invention do not contain the coding sequence of more than 1000, 500, 250, 100, 50, 25, 20, 15, 10, 5, 4, 3, 2, or 1 genomic flanking gene(s).

[31] A "polynucleotide" of the present invention also includes those polynucleotides capable of hybridizing, under stringent hybridization conditions, to sequences contained in SEQ ID NO:X, or the complement thereof (e.g., the complement of any one, two, three, four, or more of the polynucleotide fragments described herein), the polynucleotide sequence delineated in columns 8 and 9 of Table 2 or the complement thereof, and/or cDNA sequences contained in Clone ID NO:Z (e.g., the complement of any one, two, three, four, or more of the polynucleotide fragments, or the cDNA clone within the pool of cDNA clones deposited with the ATCC, described herein), and/or the polynucleotide sequence delineated in column 6 of Table 1B or the complement thereof. "Stringent hybridization conditions" refers to an overnight incubation at 42 degree C in a solution comprising 50% formamide, 5x SSC (750 mM NaCl, 75 mM trisodium citrate), 50 mM sodium phosphate (pH 7.6), 5x Denhardt's solution, 10% dextran sulfate, and 20 μg/ml denatured, sheared salmon sperm DNA, followed by washing the filters in 0.1x SSC at about 65 degree C.

[32] Also contemplated are nucleic acid molecules that hybridize to the polynucleotides of the present invention at lower stringency hybridization conditions. Changes in the stringency of hybridization and signal detection are primarily accomplished

through the manipulation of formamide concentration (lower percentages of formamide result in lowered stringency); salt conditions, or temperature. For example, lower stringency conditions include an overnight incubation at 37 degree C in a solution comprising 6X SSPE (20X SSPE = 3M NaCl; 0.2M NaH_2PO_4; 0.02M EDTA, pH 7.4), 0.5% SDS, 30% formamide, 100 ug/ml salmon sperm blocking DNA; followed by washes at 50 degree C with 1XSSPE, 0.1% SDS. In addition, to achieve even lower stringency, washes performed following stringent hybridization can be done at higher salt concentrations (e.g. 5X SSC).

[33] Note that variations in the above conditions may be accomplished through the inclusion and/or substitution of alternate blocking reagents used to suppress background in hybridization experiments. Typical blocking reagents include Denhardt's reagent, BLOTTO, heparin, denatured salmon sperm DNA, and commercially available proprietary formulations. The inclusion of specific blocking reagents may require modification of the hybridization conditions described above, due to problems with compatibility.

[34] Of course, a polynucleotide which hybridizes only to polyA+ sequences (such as any 3' terminal polyA+ tract of a cDNA shown in the sequence listing), or to a complementary stretch of T (or U) residues, would not be included in the definition of "polynucleotide," since such a polynucleotide would hybridize to any nucleic acid molecule containing a poly (A) stretch or the complement thereof (e.g., practically any double-stranded cDNA clone generated using oligo dT as a primer).

[35] The polynucleotide of the present invention can be composed of any polyribonucleotide or polydeoxribonucleotide, which may be unmodified RNA or DNA or modified RNA or DNA. For example, polynucleotides can be composed of single- and double-stranded DNA, DNA that is a mixture of single- and double-stranded regions, single- and double-stranded RNA, and RNA that is mixture of single- and double-stranded regions, hybrid molecules comprising DNA and RNA that may be single-stranded or, more typically, double-stranded or a mixture of single- and double-stranded regions. In addition, the polynucleotide can be composed of triple-stranded regions comprising RNA or DNA or both RNA and DNA. A polynucleotide may also contain one or more modified bases or DNA or RNA backbones modified for stability or for other reasons. "Modified" bases include, for example, tritylated bases and unusual bases such as inosine. A variety of modifications can be made to DNA and RNA; thus, "polynucleotide" embraces chemically, enzymatically, or metabolically modified forms.

[36] The polypeptide of the present invention can be composed of amino acids joined to each other by peptide bonds or modified peptide bonds, i.e., peptide isosteres, and may contain amino acids other than the 20 gene-encoded amino acids. The polypeptides may be modified by either natural processes, such as posttranslational processing, or by chemical modification techniques which are well known in the art. Such modifications are well described in basic texts and in more detailed monographs, as well as in a voluminous research literature. Modifications can occur anywhere in a polypeptide, including the peptide backbone, the amino acid side-chains and the amino or carboxyl termini. It will be appreciated that the same type of modification may be present in the same or varying degrees at several sites in a given polypeptide. Also, a given polypeptide may contain many types of modifications. Polypeptides may be branched, for example, as a result of ubiquitination, and they may be cyclic, with or without branching. Cyclic, branched, and branched cyclic polypeptides may result from posttranslation natural processes or may be made by synthetic methods. Modifications include acetylation, acylation, ADP-ribosylation, amidation, covalent attachment of flavin, covalent attachment of a heme moiety, covalent attachment of a nucleotide or nucleotide derivative, covalent attachment of a lipid or lipid derivative, covalent attachment of phosphotidylinositol, cross-linking, cyclization, disulfide bond formation, demethylation, formation of covalent cross-links, formation of cysteine, formation of pyroglutamate, formylation, gamma-carboxylation, glycosylation, GPI anchor formation, hydroxylation, iodination, methylation, myristoylation, oxidation, pegylation, proteolytic processing, phosphorylation, prenylation, racemization, selenoylation, sulfation, transfer-RNA mediated addition of amino acids to proteins such as arginylation, and ubiquitination. (See, for instance, PROTEINS - STRUCTURE AND MOLECULAR PROPERTIES, 2nd Ed., T. E. Creighton, W. H. Freeman and Company, New York (1993); POSTTRANSLATIONAL COVALENT MODIFICATION OF PROTEINS, B. C. Johnson, Ed., Academic Press, New York, pgs. 1-12 (1983); Seifter et al., Meth. Enzymol. 182:626-646 (1990); Rattan et al., Ann. N.Y. Acad. Sci. 663:48-62 (1992)).

[37] "SEQ ID NO:X" refers to a polynucleotide sequence described, for example, in Tables 1Aor 2, while "SEQ ID NO:Y" refers to a polypeptide sequence described in column 6 of Table 1A. SEQ ID NO:X is identified by an integer specified in column 4 of Table 1A. The polypeptide sequence SEQ ID NO:Y is a translated open reading frame (ORF) encoded

by polynucleotide SEQ ID NO:X. "Clone ID NO:Z" refers to a cDNA clone described in column 2 of Table 1A.

[38] "A polypeptide having functional activity" refers to a polypeptide capable of displaying one or more known functional activities associated with a full-length (complete) protein. Such functional activities include, but are not limited to, biological activity, antigenicity [ability to bind (or compete with a polypeptide for binding) to an anti-polypeptide antibody], immunogenicity (ability to generate antibody which binds to a specific polypeptide of the invention), ability to form multimers with polypeptides of the invention, and ability to bind to a receptor or ligand for a polypeptide.

[39] The PFAM accession number disclosed in Table 2, column 6 provides a link, through publicly accessible databases (see, for example the Sanger Centre PFAM web server at http://www.sanger.ac.uk/, and included links to PROSITE, SWISSPROT, GenBank, and other sequence databases), to the associated EC code, or closely-related EC codes. As described above, EC codes provide a description of the biochemical reaction(s) catalyzed by an enzyme family. Based on the associated EC code(s), one can routinely test the polypeptides of the invention for functional activity (e.g. biological activity) using or routinely modifying assays known in the art and/or assays described herein. For example, one of skill in the art may routinely assay enzyme polypeptides (including fragments and variants) of the invention for activity using assays as described in Examples 38, 39, 46, 47, 55, 60, 61, 62, and 65. Many other enzyme assays are known in the art, and may be useful for demonstrating activities of the polypeptides of the present invention.

[40] "A polypeptide having biological activity" refers to a polypeptide exhibiting activity similar to, but not necessarily identical to, an activity of a polypeptide of the present invention, including mature forms, as measured in a particular biological assay, with or without dose dependency. In the case where dose dependency does exist, it need not be identical to that of the polypeptide, but rather substantially similar to the dose-dependence in a given activity as compared to the polypeptide of the present invention (i.e., the candidate polypeptide will exhibit greater activity or not more than about 25-fold less and, preferably, not more than about tenfold less activity, and most preferably, not more than about three-fold less activity relative to the polypeptide of the present invention).

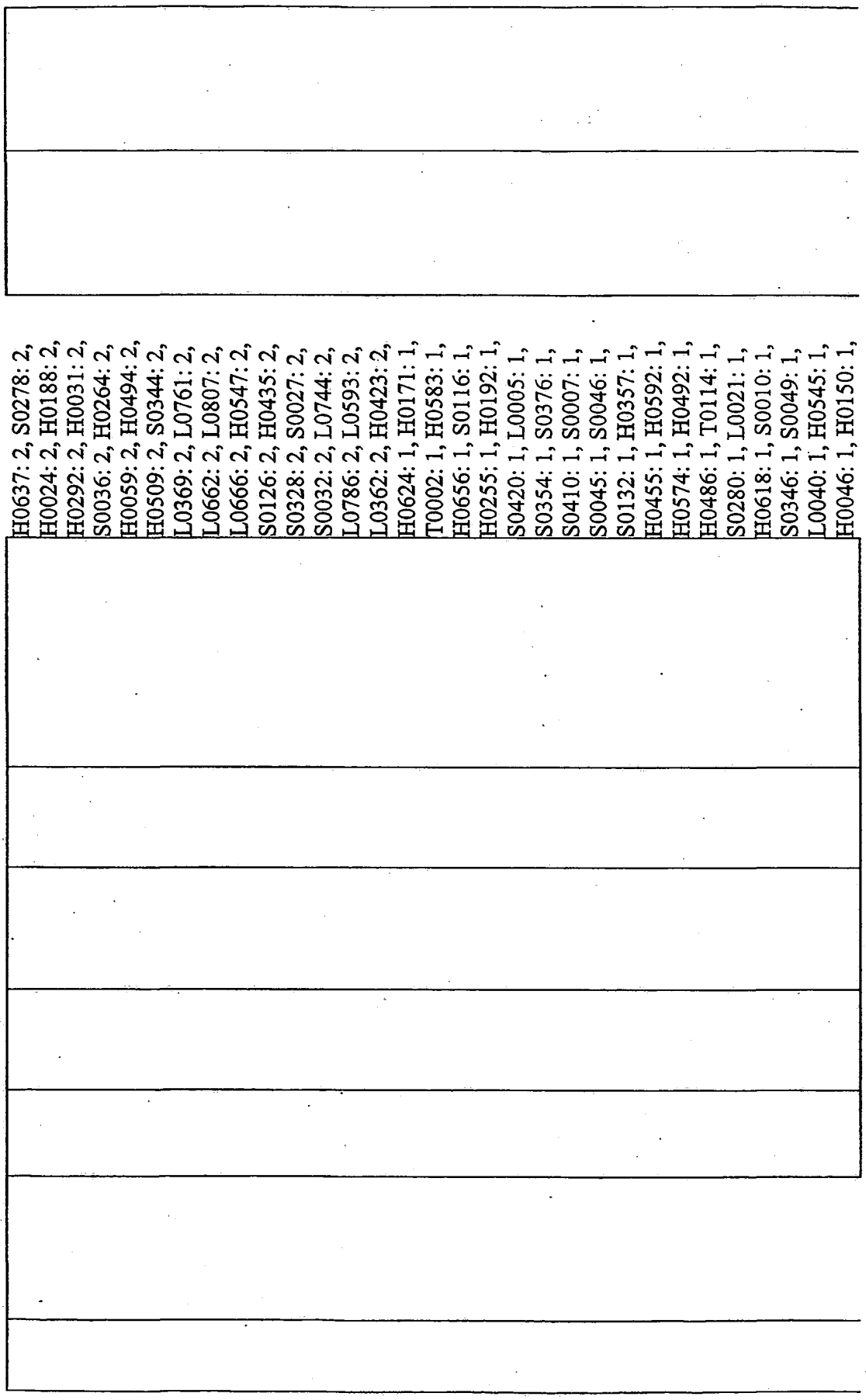
[41] Table 1A summarizes some of the polynucleotides encompassed by the invention (including contig sequences (SEQ ID NO:X) and clones (Clone ID NO:Z) and further

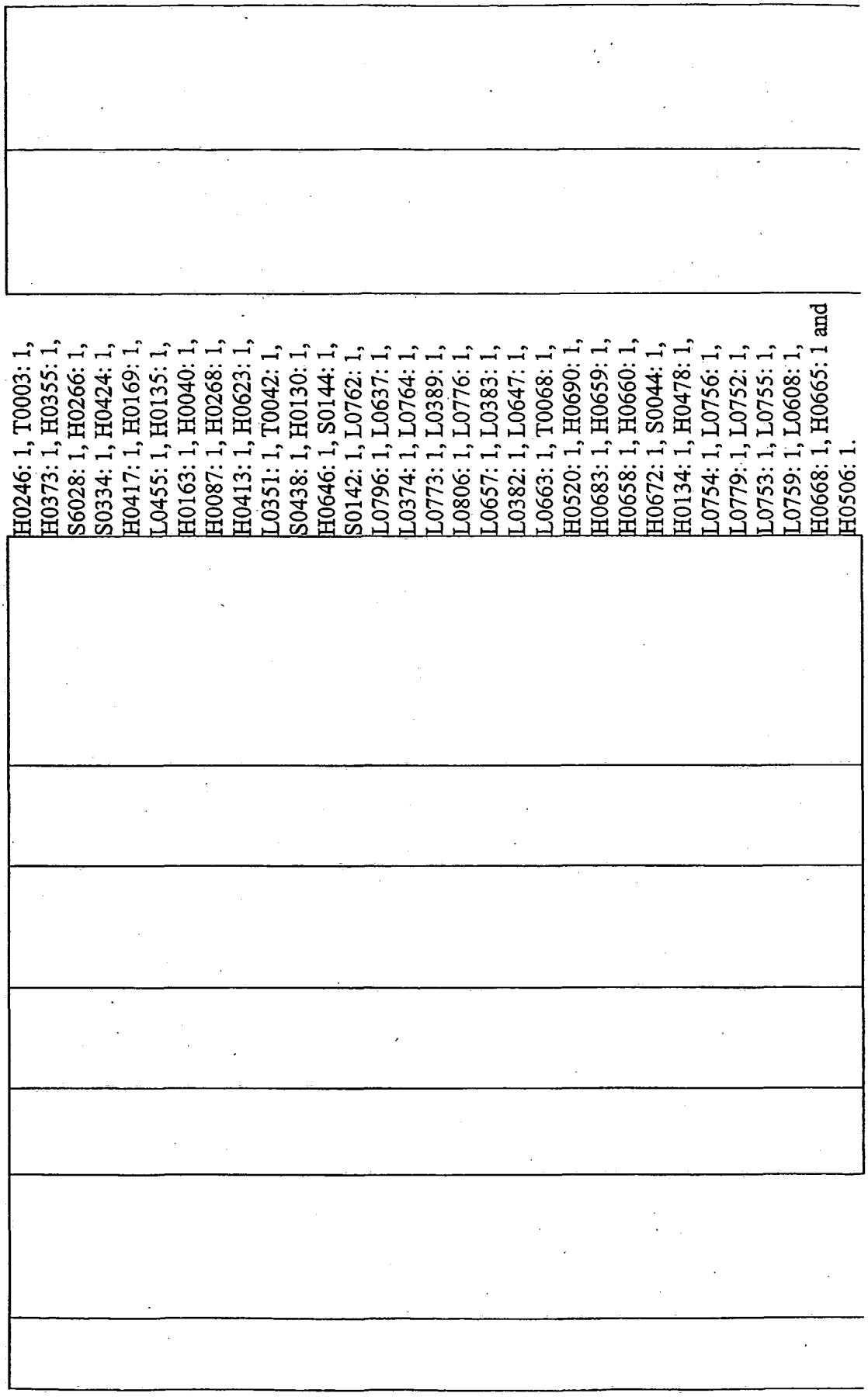
summarizes certain characteristics of these polynucleotides and the polypeptides encoded thereby.

Polynucleotides and Polypeptides of the Invention

TABLE 1A

Gene No:	Clone ID NO: Z	Contig ID:	SEQ ID NO: X	ORF (From-To)	AA SEQ ID NO: Y	Predicted Epitopes	Tissue Distribution Library code: count (see Table IV for Library Codes)	Cytologic Band	OMIM Disease Reference(s):
1	HHMMC14	1152250	11	3 - 1088	911	Gln-67 to Pro-75, Glu-166 to Gly-171, Tyr-216 to Glu-225, Ser-306 to Thr-312, Thr-332 to Thr-338.	AR061: 45, AR089: 12 L0777: 28, H0144: 12, L0748: 10, L0766: 9, H0620: 7, L0750: 7, L0581: 7, L0769: 6, L0774: 6, L0749: 5, L0731: 5, H0318: 4, H0510: 4, H0529: 4, L0771: 4, L0775: 4, L0757: 4, H0556: 3, S0360: 3, H0013: 3, H0599: 3, L0770: 3, L0768: 3, L0652: 3, L0655: 3, L0659: 3, S0374: 3, L0751: 3, L0747: 3, L0758: 3, H0341: 2, S0282: 2, H0661: 2, H0662: 2, H0125: 2, S0358: 2,		


H0637: 2, S0278: 2,
H0024: 2, H0188: 2,
H0292: 2, H0031: 2,
S0036: 2, H0264: 2,
H0059: 2, H0494: 2,
H0509: 2, S0344: 2,
L0369: 2, L0761: 2,
L0662: 2, L0807: 2,
L0666: 2, H0547: 2,
S0126: 2, H0435: 2,
S0328: 2, S0027: 2,
S0032: 2, L0744: 2,
L0786: 2, L0593: 2,
L0362: 2, H0423: 2,
H0624: 1, H0171: 1,
T0002: 1, H0583: 1,
H0656: 1, S0116: 1,
H0255: 1, H0192: 1,
S0420: 1, L0005: 1,
S0354: 1, S0376: 1,
S0410: 1, S0007: 1,
S0045: 1, S0046: 1,
S0132: 1, H0357: 1,
H0455: 1, H0592: 1,
H0574: 1, H0492: 1,
H0486: 1, T0114: 1,
S0280: 1, L0021: 1,
H0618: 1, S0010: 1,
S0346: 1, S0049: 1,
L0040: 1, H0545: 1,
H0046: 1, H0150: 1,


H0246: 1, T0003: 1,
H0373: 1, H0355: 1,
S6028: 1, H0266: 1,
S0334: 1, H0424: 1,
H0417: 1, H0169: 1,
L0455: 1, H0135: 1,
H0163: 1, H0040: 1,
H0087: 1, H0268: 1,
H0413: 1, H0623: 1,
L0351: 1, T0042: 1,
S0438: 1, H0130: 1,
H0646: 1, S0144: 1,
S0142: 1, L0762: 1,
L0796: 1, L0637: 1,
L0374: 1, L0764: 1,
L0773: 1, L0389: 1,
L0806: 1, L0776: 1,
L0657: 1, L0383: 1,
L0382: 1, L0647: 1,
L0663: 1, T0068: 1,
H0520: 1, H0690: 1,
H0683: 1, H0659: 1,
H0658: 1, H0660: 1,
H0672: 1, S0044: 1,
H0134: 1, H0478: 1,
L0754: 1, L0756: 1,
L0779: 1, L0752: 1,
L0753: 1, L0755: 1,
L0759: 1, L0608: 1,
H0668: 1, H0665: 1 and
H0506: 1.

		969371	652	3 - 1070	1552	Gln-61 to Pro-69, Glu-160 to Gly-165, Tyr-210 to Glu-219, Ser-300 to Thr-306, Thr-326 to Thr-332.			
2	HSLEQ79	1184946	12	674 - 3	912		AR061: 3, AR089: 2 S0001: 1, S0390: 1, S0028: 1 and L0592: 1.		
		752382	653	1 - 672	1553				
3	HUCME08	1082023	13	2 - 595	913	His-29 to Cys-37, Glu-40 to Pro-49, Glu-140 to Gly-145.	H0318: 3, H0656: 2, H0620: 2, S0420: 1, S0045: 1, H0393: 1, H0357: 1, S0346: 1, H0581: 1, S6028: 1, H0539: 1, L0748: 1, L0750: 1 and L0777: 1.		
		868780	654	2 - 676	1554	His-29 to Cys-37, Glu-40 to Pro-49.			
4	HNGOW33	1152254	14	520 - 1158	914	Ser-1 to Asp-12, Gln-103 to Cys-108, Ser-173 to Lys-182.	AR089: 1, AR061: 1 S0028: 12, S0045: 5, S0144: 4, S0001: 3, S0044: 3, S0031: 3, S0282: 2, H0597: 2, H0617: 2, S0428: 2, S0390: 2, S0037: 2, S0260: 2, H0624: 1, H0171: 1, H0381: 1, H0346: 1, S0132: 1, S0300: 1, S0278: 1, H0318: 1, H0204: 1,		

								S0050: 1, H0271: 1, H0416: 1, H0644: 1, H0181: 1, S0036: 1, H0359: 1, S0150: 1, H0144: 1 and S0146: 1.		
		957351	655	268 - 1320	1555	Ser-1 to Arg-11.				
5	HT4GD03	1103896	15	153 - 968	915	Pro-1 to Leu-6, His-25 to Arg-30, Lys-40 to Lys-46, Thr-95 to Asp-100, Gly-125 to Gly-130, Arg-139 to Pro-144, Lys-179 to Met-187.		AR061: 10, AR089: 5 H0585: 37, H0141: 10, L0809: 6, L0794: 5, L0752: 3, H0135: 2, H0494: 2, L0803: 2, L0749: 2, S6024: 1, S0212: 1, H0255: 1, S0356: 1, H0510: 1, L0761: 1, L0772: 1, L0800: 1, L0773: 1, L0766: 1, L0806: 1, L0782: 1, L0788: 1, H0144: 1, H0659: 1, H0187: 1, L0750: 1, L0777: 1 and L0758: 1.		
		923731	656	455 - 967	1556	His-14 to Pro-19.				
6	HAQBZ89	949061	16	2 - 325	916	Ala-20 to Arg-25.		AR061: 9, AR089: 6 L0659: 4, L0758: 4, L0777: 3, S0360: 2, L0775: 2, L0750: 2, L0731: 2, H0295: 1, S0218: 1, H0255: 1, H0402: 1, L0717: 1, H0411: 1, H0015: 1,		

							H0030: 1, H0644: 1, H0673: 1, H0087: 1, L0770: 1, L0769: 1, L0637: 1, L0761: 1, L0646: 1, L0387: 1, L0766: 1, L0776: 1, L0655: 1, L0789: 1, H0683: 1, S0027: 1, L0748: 1, L0779: 1 and L0757: 1.		
7	HCCCC81	949062	17	139 - 921	917	Gly-8 to Ile-13, Glu-141 to His-146, Glu-186 to Glu-195, Asp-213 to Asn-218.	AR089: 12, AR061: 7 H0583: 1, H0675: 1 and H0457: 1.		
8	HE8PW83	927532	18	1 - 546	918	Glu-69 to Gln-76.	AR089: 0, AR061: 0 L0748: 6, L0749: 6, L0803: 3, L0774: 3, L0775: 3, H0574: 1, H0632: 1, H0013: 1, L0789: 1, L0790: 1, H0144: 1 and L0581: 1.		
9	HE9QQ22	949080	19	3 - 563	919		AR061: 11, AR089: 3 L0748: 3, H0144: 2, H0632: 1 and L0581: 1.		
10	HFPFB39	946170	20	1613 - 462	920	Pro-36 to Lys-46, Pro-56 to Ala-68, Ala-85 to Arg-90, Tyr-191 to Asn-198, Gly-219 to Val-224, Leu-232 to Lys-238,	AR061: 6, AR089: 3 S0010: 4, S0222: 3, H0455: 2, L0803: 2, L0439: 2, L0745: 2, S0282: 1, S0400: 1, H0456: 1, H0441: 1,		

								His-260 to Ala-266.	S0346: 1, H0509: 1, L0769: 1, L0438: 1, L0756: 1 and S0106: 1.		
11	HSDЛ44	1151680	21	272 - 2143	921				AR061: 0, AR089: 0 S0045: 6, H0255: 5, S0028: 4, S0031: 2, S0260: 2, H0341: 1, S0278: 1, H0333: 1, H0250: 1, S0050: 1, H0271: 1, H0100: 1, S0216: 1, S0044: 1 and S0390: 1.		
						974784	657	210 - 1847	1557	Ala-324 to Phe-332, Arg-336 to Thr-343, Pro-373 to Arg-384, Lys-424 to Asp-431.	
12	HE9DG38	1181748	22	2 - 994	922					Ala-30 to Lys-45, Ala-71 to Ala-85, Gly-112 to Asn-117, Asn-131 to Gly-140, Ser-143 to Ala-148, Leu-230 to Val-235, Gly-301 to Asn-312.	AR061: 6, AR089: 2 H0052: 3, H0457: 3, H0618: 2, H0622: 2, L0770: 2, L0438: 2, L0439: 2, H0257: 1, L0471: 1, H0428: 1, H0135: 1, H0144: 1, H0519: 1, H0521: 1, L0741: 1, L0756: 1 and H0707: 1.
						943384	658	1 - 1371	1558	Ala-28 to Lys-43, Ala-69 to Ala-83, Gly-110 to Asn-115, Asn-129 to Gly-138,	

						Ser-141 to Ala-146.			
13	HGBAT24	1024746	23	1 - 420	923		AR061: 41, AR089: 30 H0014: 2, S0028: 1 and S0031: 1.		
		761143	659	1 - 420	1559				
14	HTDAF92	1181747	24	112 - 1011	924	Leu-71 to Val-76, Gly-142 to Asn-153, Asp-180 to Arg-188, Ser-202 to Asn-212, His-244 to Pro-251, Arg-275 to Ala-280.	AR089: 2, AR061: 1 L0439: 3, S0222: 2, H0543: 2, S0360: 1, H0622: 1, H0063: 1, H0477: 1, T0042: 1, L0369: 1, L0771: 1, L0662: 1, L0659: 1, L0809: 1 and L0786: 1.		
		943385	660	112 - 627	1560	Leu-71 to Val-76, Gly-142 to Asn-153.			
		972980	661	718 - 401	1561	Thr-15 to Tyr-20, Ser-54 to Leu-63.			
15	HAPSI19	668405	25	176 - 397	925	Leu-1 to Tyr-10.	AR089: 389, AR061: 120	19q13.3-q13.4	113900, 126340, 126391, 130410, 134790, 138570, 160900, 173850, 191044, 258501, 600040, 600138, 602225,

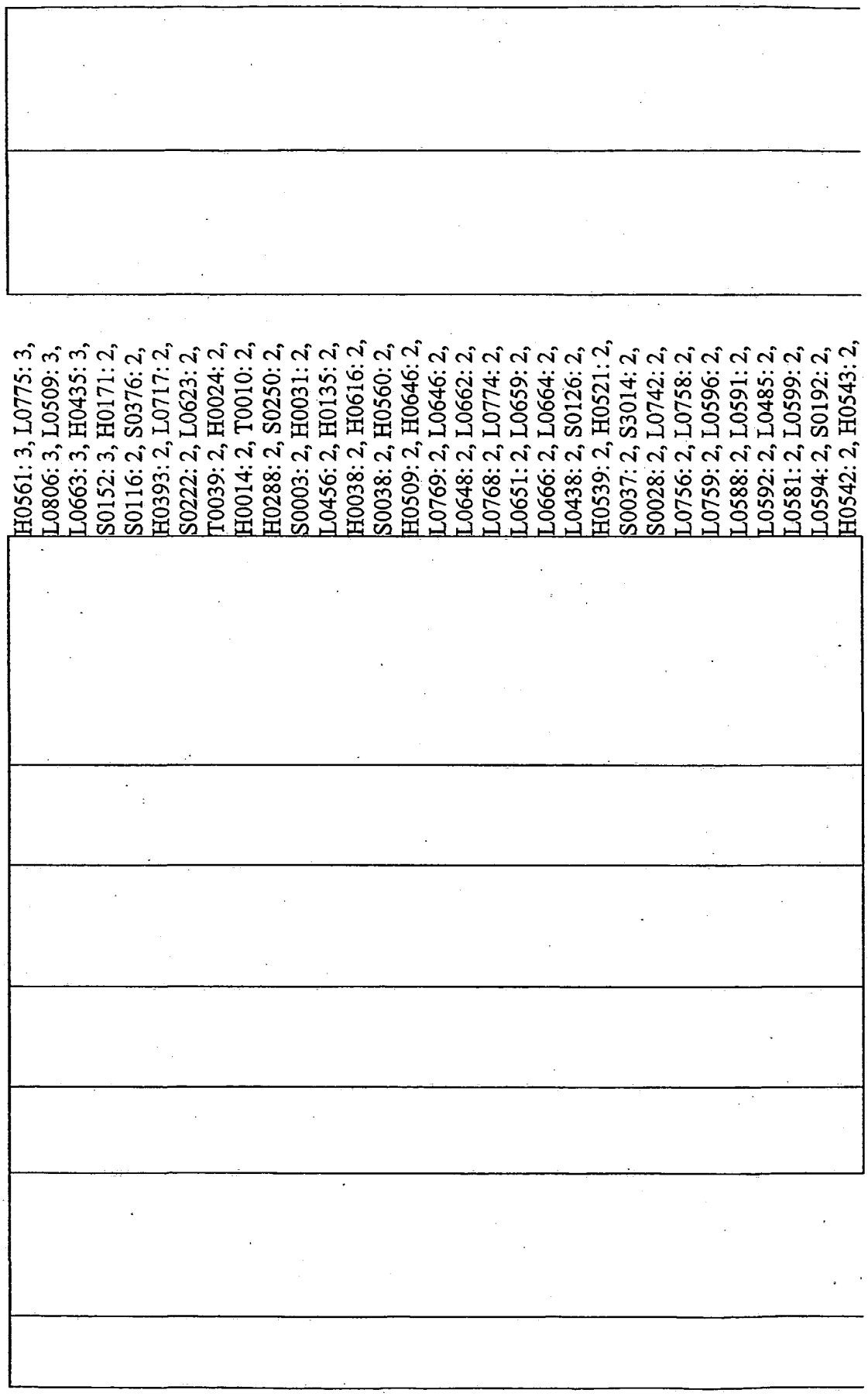
									602225
16	HADTU18	666268	26	185 - 442	926	Leu-48 to Gln-54.	AR061: 197, AR089: 100		
17	HNTEF53	954852	27	33 - 938	927	Pro-45 to Ser-53, Ala-55 to Ala-63, Asp-130 to Leu-136.	AR089: 2, AR061: 1 L0439: 4, L0105: 2, H0271: 2, L0637: 2, L0653: 2, H0519: 2, S0330: 2, H0431: 1, H0052: 1, L0471: 1, H0375: 1, L0763: 1, L0794: 1, L0803: 1, L0774: 1, L0806: 1, L0526: 1, L0809: 1, L0666: 1, L0664: 1 and H0648: 1.		
18	HWLLB11	954849	28	51 - 524	928	Pro-1 to Glu-10, His-60 to Arg-76, Pro-79 to Arg-85, Ala-95 to Ile-101, Glu-124 to Glu-130, Lys-151 to Arg-158.	AR061: 2, AR089: 2 S0358: 2, L0657: 1 and L0601: 1.		
19	HCRQK86	1193068	29	2 - 1339	929	Arg-1 to Gly-7, Pro-19 to Cys-27, Leu-61 to Ala-72, Ser-90 to Ser-96, Thr-126 to Ser-143, Glu-167 to Gln-176, Ile-185 to Ser-193, Phe-249 to Phe-256,	AR061: 1, AR089: 1 L0748: 6, H0013: 3, L0794: 3, L0438: 3, L0747: 3, L0731: 3, L0005: 2, S0360: 2, H0494: 2, L0769: 2, L0766: 2, L0803: 2, L0655: 2, L0756: 2,		

						Ala-260 to Ser-271, Tyr-298 to Lys-304, Ser-311 to Arg-322, Ser-346 to Gly-356, Glu-400 to Ser-411.	L0758: 2, H0624: 1, H0170: 1, H0556: 1, H0294: 1, S0116: 1, H0341: 1, H0484: 1, H0638: 1, S0418: 1, S0420: 1, S0356: 1, H0637: 1, H0580: 1, L0717: 1, H0392: 1, H0618: 1, H0052: 1, H0622: 1, H0033: 1, H0553: 1, H0617: 1, H0264: 1, H0272: 1, H0413: 1, S0038: 1, H0100: 1, H0509: 1, S0422: 1, S0426: 1, L0639: 1, L0646: 1, L0800: 1, L0662: 1, L0378: 1, L0636: 1, L0647: 1, L0367: 1, L0789: 1, L0666: 1, H0144: 1, H0682: 1, H0436: 1, L0611: 1, L0779: 1, L0777: 1, L0752: 1, L0753: 1, L0608: 1, L0601: 1 and S0276: 1.		
		918014	662	2 - 1324	1562	Pro-14 to Cys-22, Leu-56 to Ala-67, Ser-85 to Ser-91, Thr-121 to Ser-138,			

					Glu-162 to Gln-171, Ile-180 to Ser-188, Phe-244 to Phe-251, Ala-255 to Ser-266, Tyr-293 to Lys-299, Ser-306 to Arg-317, Ser-341 to Gly-351, Glu-395 to Ser-406.				
20	HOCOT88	933635	30	331 - 1449	930	Ser-13 to Arg-19, Leu-28 to Val-35, Pro-37 to Gly-57, Ser-81 to Pro-87, Ile-102 to Arg-111.	AR061: 1, AR089: 0 L0766: 3, H0341: 2, H0599: 2, H0457: 2, H0169: 2, S0146: 2, H0444: 2, H0445: 2, L0592: 2, H0619: 1, S0222: 1, H0455: 1, H0592: 1, H0486: 1, H0013: 1, S0010: 1, S0665: 1, H0544: 1, L0471: 1, T0042: 1, H0560: 1, H0359: 1, L0662: 1, L0528: 1, L0529: 1, L0543: 1, L0438: 1, H0435: 1, H0660: 1, H0518: 1, S0044: 1, L0439: 1, L0745: 1, L0753: 1, S0260: 1, L0594: 1, H0542: 1, H0423: 1 and H0422: 1.			
21	HELEF11	926930	31	53 - 625	931	Phe-21 to Lys-27.	AR061: 1, AR089: 1		

							S0045: 1 and H0457: 1.		
22	HOUGD29	1204714	32	199 - 1821	932	Arg-9 to Gln-17, Ile-33 to Asn-39, Gln-93 to Ser-104, Asp-141 to Leu-155, Ser-224 to Asn-234, Asn-243 to Lys-248, Ser-308 to Gln-320, Thr-350 to Glu-357, Ser-384 to Thr-390, Asp-435 to Ser-447, Ala-480 to Lys-487, Lys-496 to Leu-508, Ser-519 to Val-528, Ser-533 to Gln-541.	AR061: 6, AR089: 5 L0770: 4, L0789: 3, L0439: 3, L0750: 3, L0641: 2, L0747: 2, L0758: 2, S0040: 1, H0575: 1, T0010: 1, H0087: 1, S0422: 1, L0803: 1, L0375: 1, L0776: 1, L0659: 1, L0783: 1, H0144: 1, L0352: 1, H0684: 1, H0660: 1, S0027: 1, L0777: 1 and H0445: 1.		
		909797	663	199 - 909	1563	Arg-9 to Leu-15.			
23	HSIGN57	910078	33	2 - 760	933	Val-10 to Gly-16, Met-19 to Val-34.	AR061: 2, AR089: 1 H0229: 1, H0590: 1, S0049: 1, H0014: 1, H0560: 1, L0439: 1 and H0543: 1.		
24	HTEPE35	948475	34	839 - 78	934	Tyr-1 to Lys-8, Phe-19 to Ser-24, Thr-28 to Ser-34, Pro-54 to Trp-70.	AR061: 4, AR089: 1 L0758: 7, L0768: 2, H0616: 1 and L0151: 1.		
25	HUFDB74	1227205	35	2 - 562	935	Gln-43 to Thr-58, Asn-74 to His-79, Gly-109 to Trp-114, Asp-136 to Phe-145.	AR061: 1, AR089: 1 H0575: 2, L0754: 2, H0599: 1, T0048: 1, L0163: 1, H0051: 1, H0188: 1, H0379: 1,		

							L0438: 1, H0670: 1, H0672: 1, L0439: 1, L0747: 1, S0260: 1, L0591: 1 and H0506: 1.		
		901451	664	2 - 412	1564	Gln-43 to Thr-58, Asn-74 to His-79, Gly-109 to Trp-114.			
26	HBXAB33	1229908	36	3 - 581	936	Asp-1 to Ala-6, Pro-25 to Pro-30.	AR089: 8, AR061: 4 L0748: 35, L0747: 15, H0052: 11, L0766: 11, L0439: 10, L0740: 9, L0595: 9, H0556: 8, H0599: 6, S0010: 6, S0418: 5, H0318: 5, H0050: 5, H0673: 5, H0591: 5, L0770: 5, L0593: 5, H0265: 4, S0046: 4, H0431: 4, H0574: 4, H0013: 4, H0083: 4, S0022: 4, L0776: 4, H0144: 4, L0746: 4, L0750: 4, L0777: 4, L0752: 4, L0731: 4, L0604: 4, L0603: 4, S0420: 3, S0354: 3, H0261: 3, H0331: 3, H0156: 3, H0046: 3, H0373: 3, H0266: 3, H0090: 3, H0551: 3, H0413: 3,		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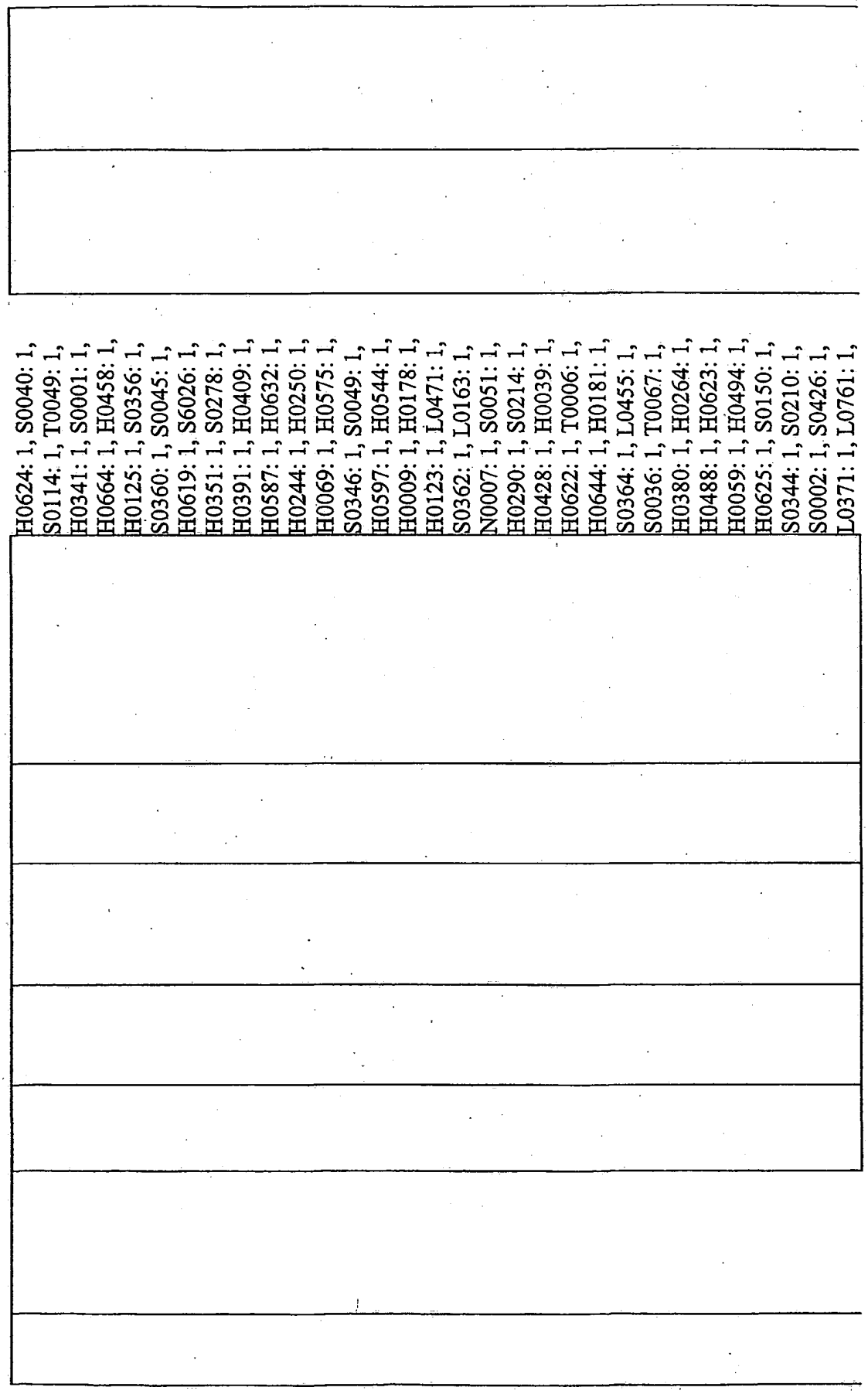
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27	HMABF84	1198479	957228	37	665	677 - 1423	2424 - 1081	937	1565	Pro-21 to Arg-28, Arg-56 to Thr-63, Tyr-84 to Asp-89.	Lys-70 to Met-78, Tyr-85 to Lys-91, Gln-195 to Cys-205, Pro-234 to Lys-245, Gly-270 to Asp-275, Asp-315 to Ser-324, Pro-352 to Gln-357, Leu-380 to Trp-389.	AR061: 3, AR089: 1 H0617: 4, S0212: 2, S0360: 2, S0144: 2, L0803: 2, H0587: 1, H0013: 1, H0046: 1, H0616: 1, H0100: 1, S0422: 1, H0529: 1, L0774: 1, L0809: 1, L0790: 1, L0791: 1,

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28	HPTVF17	1150836	38	712 - 245	938	Gly-1 to Gln-11, Ser-24 to Cys-33, Thr-37 to Gly-46, Thr-51 to Thr-63.	AR061: 8, AR089: 4 H0424: 1 and L0595: 1.		
		936688	667	2 - 679	1567	Pro-10 to Pro-17, Cys-41 to Pro-50, Asn-64 to Arg-73, Ser-81 to Arg-87, Glu-93 to Pro-100.			
29	HSDIC55	1197407	39	570 - 1	939	Leu-29 to Gly-40, Tyr-93 to Ile-100.	AR089: 0, AR061: 0		
		506582	668	1 - 381	1568	Tyr-28 to Val-37, Gln-39 to Met-44, Leu-52 to Asp-60.			
30	HSDIL35	1228138	40	2 - 313	940		AR089: 1, AR061: 0 H0598: 1, S0028: 1 and S0260: 1.		
		656370	669	3 - 371	1569				
31	HTXSM05	1104951	41	2 - 565	941	Pro-48 to Gly-53, Pro-88 to Ser-94, Gly-103 to Ser-108, Pro-141 to Gln-150.	AR061: 10, AR089: 5 H0264: 2, H0556: 1, S0366: 1, S3012: 1 and L0485: 1.		
		958447	670	2 - 424	1570	Pro-48 to Gly-53, Pro-88 to Ser-94, Gly-103 to Gly-111.			
32	HYAAH23	1032585	42	322 - 606	942	Ser-39 to Thr-45, Thr-65 to Thr-71.	AR061: 23, AR089: 15 L0777: 28, H0257: 19,	9q12	602014

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33	HTPDX13	1134372	43	2 - 922	943		AR089: 0, AR061: 0 H0549: 1, H0485: 1, H0039: 1, H0553: 1, H0040: 1 and S0126: 1.		
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34	HAHHE43	1172244	44	2 - 376	944		AR089: 20, AR061: 8 H0599: 2, L0759: 2, H0556: 1, H0638: 1, S0418: 1, S6022: 1, L0021: 1, S0010: 1, H0266: 1, H0553: 1, H0644: 1, L0763: 1, L0641: 1, L0766: 1, L0805: 1, L0655: 1, H0539: 1, S0028: 1 and L0777: 1.		
		966830	672	2 - 376	1572				
35	HAJAV28	948630	45	3 - 464	945	Pro-1 to Ala-12.	AR089: 3, AR061: 1 L0747: 12, L0755: 12, L0766: 9, L0438: 9, L0754: 7, H0046: 6, L0751: 6, L0752: 6, H0068: 5, L0775: 5, L0439: 5, S0010: 4, H0547: 4, S0152: 4, L0740: 4, L0779: 4, L0759: 4, H0591: 3, L0771: 3, L0662: 3, L0774: 3, L0666: 3, S0028: 3, L0748: 3,	1q21-q25	104770, 107300, 107670, 110700, 131210, 135940, 136132, 145001, 146790, 150292, 152445, 152445, 159001,

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36	HAPOR59	712955	46	3 - 368	946	Ala-4 to Glu-11, Lys-62 to Arg-71.	AR089: 29, AR061: 9 H0575: 1 and H0083: 1.		
37	HBIBF78	1123470	47	879 - 640	947		AR061: 6, AR089: 3 S0049: 1 and L0439: 1.		
		772797	673	45 - 206	1573	Lys-42 to Ser-49.			
38	HCDAJ15	1091635	48	176 - 388	948	Arg-12 to Thr-20,	AR089: 8, AR061: 8		

						His-55 to Lys-61.	H0251: 2 and S0392: 1.		
		557243	674	2 - 190	1574				
39	HCE1S21	671209	49	1 - 297	949	Glu-9 to Asp-14.	AR061: 5, AR089: 2 H0052: 1, L0581: 1 and L0366: 1.		
40	HCE3J64	951228	50	3 - 593	950	Thr-1 to Lys-8, Lys-26 to Asp-33, Gln-60 to Trp-70, Phe-99 to Lys-106, Asp-126 to Asn-137, Arg-139 to Glu-145, Met-157 to Tyr-164, Asn-167 to Arg-174.	AR089: 24, AR061: 15 H0052: 2, L0759: 2, S0376: 1, H0333: 1, S0388: 1, L0637: 1, L0636: 1, L0742: 1 and L0439: 1.		
41	HCFCV92	1124565	51	922 - 1143	951	Gly-68 to Leu-74.	AR089: 2, AR061: 2 L0766: 3, H0521: 2, H0422: 2, H0661: 1, H0369: 1, H0687: 1, L0646: 1, L0655: 1, L0665: 1, H0519: 1, H0436: 1 and L0779: 1.		
		934216	675	413 - 655	1575				
42	HCFLI54	921382	52	259 - 522	952		AR089: 1, AR061: 0 L0439: 6, L0748: 5, L0758: 4, L0591: 4, L0766: 3, L0805: 3, L0438: 3, H0102: 2, L0666: 2, L0740: 2, H0423: 2, S0360: 1, S0046: 1, H0393: 1, H0411: 1, H0391: 1,		

						H0586: 1, H0156: 1, H0575: 1, H0023: 1, H0266: 1, H0267: 1, H0622: 1, T0006: 1, H0674: 1, S0386: 1, L0770: 1, L0638: 1, L0373: 1, L0662: 1, L0776: 1, L0518: 1, L0809: 1, L0663: 1, H0684: 1, H0435: 1, H0648: 1, H0672: 1, H0436: 1, H0478: 1, L0744: 1 and L0747: 1.		
43	HCFND04	1155680	53	1 - 1146	953	Pro-2 to Leu-23, Gln-54 to Gly-62, Glu-68 to Asn-80, Glu-82 to Pro-94, Gln-100 to Thr-108, Pro-114 to Lys-123, Pro-128 to Lys-137, Leu-143 to Lys-151, Pro-157 to Gly-170, Lys-173 to Lys-185, Asp-193 to Glu-211, Gly-236 to Met-241, Asp-298 to Trp-304, Tyr-306 to Ile-314, Thr-322 to Tyr-331, Thr-371 to Thr-376.	AR089: 7, AR061: 3 S0474: 1, T0067: 1, L0805: 1, L0777: 1, L0780: 1 and H0423: 1.		
		873441	676	273 - 1145	1576	Ile-10 to Cys-21,			

44	HCHMV63	1190101	54	889 - 2	954	Thr-24 to Gln-60.	Gly-1 to Trp-6, Pro-9 to Asp-18, Val-56 to Thr-66, Pro-73 to Trp-79, Ala-82 to Trp-102, Gln-108 to Cys-119, Ser-145 to Arg-166, Arg-239 to Asn-247.	AR089: 2, AR061: 1 S0412: 12, L0758: 5, L0743: 4, L0748: 4, H0545: 3, L0769: 3, L0665: 3, H0341: 2, S0360: 2, H0457: 2, H0644: 2, H0032: 2, S0144: 2, L0762: 2, L0766: 2, L0774: 2, L0530: 2, H0436: 2, L0747: 2, L0759: 2, L0581: 2, H0352: 2, H0657: 1, H0656: 1, S0282: 1, H0484: 1, H0663: 1, S0358: 1, H0370: 1, L0586: 1, H0013: 1, S0010: 1, H0596: 1, H0594: 1, H0606: 1, H0135: 1, H0090: 1, H0616: 1, H0641: 1, H0633: 1, L0770: 1, L0771: 1, L0662: 1, L0767: 1, L0768: 1, L0803: 1, L0805: 1, L0509: 1, L0653: 1, L0515: 1, L0659: 1, H0520: 1, H0435: 1, H0659: 1, H0521: 1, H0696: 1,

							S3014: 1, S0027: 1, L0439: 1, L0740: 1, L0749: 1, L0756: 1, S0260: 1 and H0423: 1.		
		666798	677	2 - 262	1577	His-48 to Thr-54.			
45	HCWDL45	889416	55	118 - 282	955	Ala-33 to Ile-42.	AR089: 16, AR061: 4 H0305: 6 and S0052: 1.		
46	HCWEI19	1125258	56	116 - 448	956	Lys-1 to Ser-7, Pro-71 to Gly-81.	AR089: 4, AR061: 2 H0305: 2		
		948690	678	178 - 309	1578				
47	HCWKB72	1224131	57	1527 - 3206	957	Leu-73 to Lys-87, Met-91 to Pro-171, Glu-198 to Ser-298, Ser-306 to Ser-336, Ser-338 to Ser-373, Pro-379 to Val-407, Ser-410 to Gly-418, Ser-425 to His-458, Val-464 to Arg-541.	AR061: 2, AR089: 2 H0305: 4, H0266: 3, H0624: 2, H0618: 2, S0036: 2, H0040: 2, T0041: 2, L0749: 2, L0777: 2, H0265: 1, H0556: 1, S0134: 1, H0013: 1, H0069: 1, H0599: 1, H0575: 1, H0421: 1, T0110: 1, H0188: 1, H0428: 1, H0135: 1, H0634: 1, H0488: 1, H0056: 1, H0623: 1, S0038: 1, S0386: 1, H0100: 1, T0042: 1, L0766: 1, H0521: 1, H0522: 1, H0436: 1, S3014: 1, S0027: 1, L0779: 1, S0260: 1, L0588: 1,		

							L0366: 1 and L0462: 1.		
		676007	679	101 - 193	1579				
48	HDDAF49	1125713	58	549 - 298	958		AR061: 9, AR089: 3 H0339: 1		
		911314	680	144 - 320	1580	Glu-15 to Ser-24.			
49	HDPGQ74	691163	59	3 - 320	959	Asp-19 to Leu-24.	AR061: 0, AR089: 0 H0551: 5, H0545: 4, H0521: 4, L0748: 4, L0790: 3, S0278: 2, H0586: 2, H0333: 2, H0632: 2, H0052: 2, H0023: 2, S0250: 2, S0142: 2, S0426: 2, H0529: 2, L0565: 2, H0547: 2, L0439: 2, H0170: 1, H0685: 1, H0295: 1, H0458: 1, S0418: 1, L0534: 1, S0132: 1, H0587: 1, H0485: 1, H0544: 1, H0081: 1, L0471: 1, S0050: 1, S0388: 1, H0510: 1, H0286: 1, H0428: 1, H0032: 1, H0124: 1, H0488: 1, L0065: 1, H0538: 1, S0002: 1, L0770: 1, L0769: 1, L0646: 1, L0644: 1, L0773: 1, L0363: 1, L0774: 1,		

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						960		
					118 - 282			
				60				
			752975					
		HDPGS68						
	50							

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51	HDPIX67	1172240	61	3 - 470	961	Gln-19 to Gly-24, Gln-34 to Leu-42, Gln-44 to Glu-49,	AR089: 3, AR061: 1 L0756: 3, H0622: 2, L0751: 2, H0624: 1,		

			954385	681	2 - 334	1581	Gln-56 to Glu-61, Leu-76 to Phe-85, Cys-97 to Arg-102.	H0265: 1, S0402: 1, H0650: 1, S0444: 1, H0497: 1, H0643: 1, H0632: 1, H0673: 1, H0038: 1, H0646: 1, S0002: 1, L0764: 1, L0766: 1, L0803: 1, L0776: 1, L0790: 1, L0666: 1, H0520: 1, S0152: 1, H0521: 1, H0134: 1, L0743: 1, L0777: 1 and H0543: 1.	
52	HDPXN01	1125610	62	2 - 181	962		AR089: 9, AR061: 4 L0794: 5, L0439: 2, L0747: 2, H0521: 1, L0779: 1, L0777: 1 and L0594: 1.		
			915919	682	69 - 230	1582	Ser-48 to Ser-53.		
53	HDQFT77	1136137	63	2 - 958	963		Pro-13 to Leu-23, Glu-39 to Gly-51, Ser-54 to Glu-65, Ala-77 to Gly-84, Gln-90 to Val-96, Arg-104 to Gly-113, Thr-120 to Cys-125, Asn-154 to Ser-160, Glu-162 to Val-168, Leu-247 to Gln-252,	AR089: 16, AR061: 8 L0803: 5, L0655: 3, L0747: 3, L0779: 3, L0771: 2, L0766: 2, L0775: 2, L0666: 2, S0126: 2, L0755: 2, L0758: 2, H0656: 1, H0351: 1, H0586: 1, H0559: 1, H0598: 1, H0038: 1, L0761: 1,	

							Phe-286 to Arg-294, Pro-296 to Tyr-301, Asp-308 to Ser-317.	L0804: 1, L0774: 1, L0805: 1, H0521: 1, L0750: 1 and L0759: 1.		
		932212	683	1 - 873	1583		Glu-11 to Gly-23, Ser-26 to Glu-37, Ala-49 to Gly-56, Gln-62 to Val-68, Arg-76 to Gly-85, Thr-92 to Cys-97, Asn-126 to Ser-132, Glu-134 to Val-140, Leu-219 to Gln-224, Phe-258 to Arg-266, Pro-268 to Tyr-273, Asp-280 to Ser-289.			
54	HE2FR50	508498	64	50 - 391	964			AR061: 10, AR089: 3 L0659: 3, L0766: 2, S0330: 2, L0731: 2, L0758: 2, H0171: 1, H0650: 1, S0356: 1, H0675: 1, S0182: 1, H0184: 1, H0009: 1, H0039: 1, H0038: 1, H0560: 1, L0770: 1, L0637: 1, L0655: 1, L0666: 1, H0659: 1, S0328: 1, H0518: 1, H0521: 1, L0752: 1, S0260: 1 and L0588: 1.		
55	HE2SN25	1151226	65	1239 - 1024	965		Leu-7 to Lys-13.	AR061: 4, AR089: 3		

							L0439: 2, H0624: 1, H0171: 1, S0114: 1, L0774: 1, H0539: 1 and L0752: 1.		
		948687	684	134 - 277	1584	Thr-1 to His-10.			
56	HE8AE26	1147168	66	247 - 597	966	Ser-74 to Ala-81.	AR089: 11, AR061: 10 H0013: 2 and H0427: 1.		
		851514	685	34 - 210	1585				
57	HEBGK01	963673	67	453 - 109	967	Gly-48 to Gly-54.	AR061: 0, AR089: 0 H0617: 7, H0483: 1, S0007: 1, S0051: 1, H0182: 1, H0606: 1, L0769: 1, L0761: 1 and H0547: 1.		
58	HEFMB30	691516	68	51 - 221	968		AR061: 1, AR089: 0 L0804: 2, S0402: 1, H0648: 1, L0748: 1 and L0749: 1.		
59	HEOPE58	851009	69	257 - 421	969	Phe-28 to Val-36, Phe-44 to Pro-49.	AR089: 1, AR061: 0 H0457: 4		
60	HETBR74	948667	70	216 - 479	970	Leu-78 to Cys-88.	AR061: 8, AR089: 6 H0170: 1, S0045: 1, H0619: 1, H0046: 1, L0761: 1, L0754: 1 and S0026: 1.		
61	HFCAG94	1111177	71	1010 - 669	971		AR089: 16, AR061: 7 H0009: 1 and H0520: 1.		
		735763	686	82 - 180	1586				

62	HFPHR82	957528	72	1592 - 273	972	Ile-256 to Val-269, Gln-296 to Gln-301, Ile-316 to Leu-322, Glu-351 to Leu-359, Ser-395 to Arg-406, Gly-425 to Leu-431.	AR089: 3, AR061: 1 L0747: 12, L0755: 12, L0766: 9, L0438: 9, L0754: 7, H0046: 6, L0751: 6, L0752: 6, H0068: 5, L0775: 5, L0439: 5, S0010: 4, H0547: 4, S0152: 4, L0740: 4, L0779: 4, L0759: 4, H0591: 3, L0771: 3, L0662: 3, L0774: 3, L0666: 3, S0028: 3, L0748: 3, L0756: 3, L0731: 3, L0757: 3, H0624: 2, S0045: 2, H0619: 2, S0222: 2, S0049: 2, H0052: 2, H0615: 2, S0036: 2, T0041: 2, H0509: 2, S0002: 2, S0426: 2, L0769: 2, L0776: 2, L0659: 2, H0521: 2, H0707: 2, L0594: 2, L0362: 2, S0011: 2, H0170: 1, H0171: 1, H0685: 1, S0040: 1, T0049: 1, H0657: 1, S0001: 1, H0638: 1, S0358: 1, S0360: 1, S0408: 1, H0637: 1, S0007: 1,	1q21-q25	104770, 107300, 107670, 110700, 131210, 135940, 136132, 145001, 146790, 150292, 152445, 152445, 159001, 173610, 174000, 179755, 182860, 182860, 182860, 191315, 208250, 230800, 230800, 233710, 266200, 600897, 600995, 601105, 601412, 601518, 601652,

602491						
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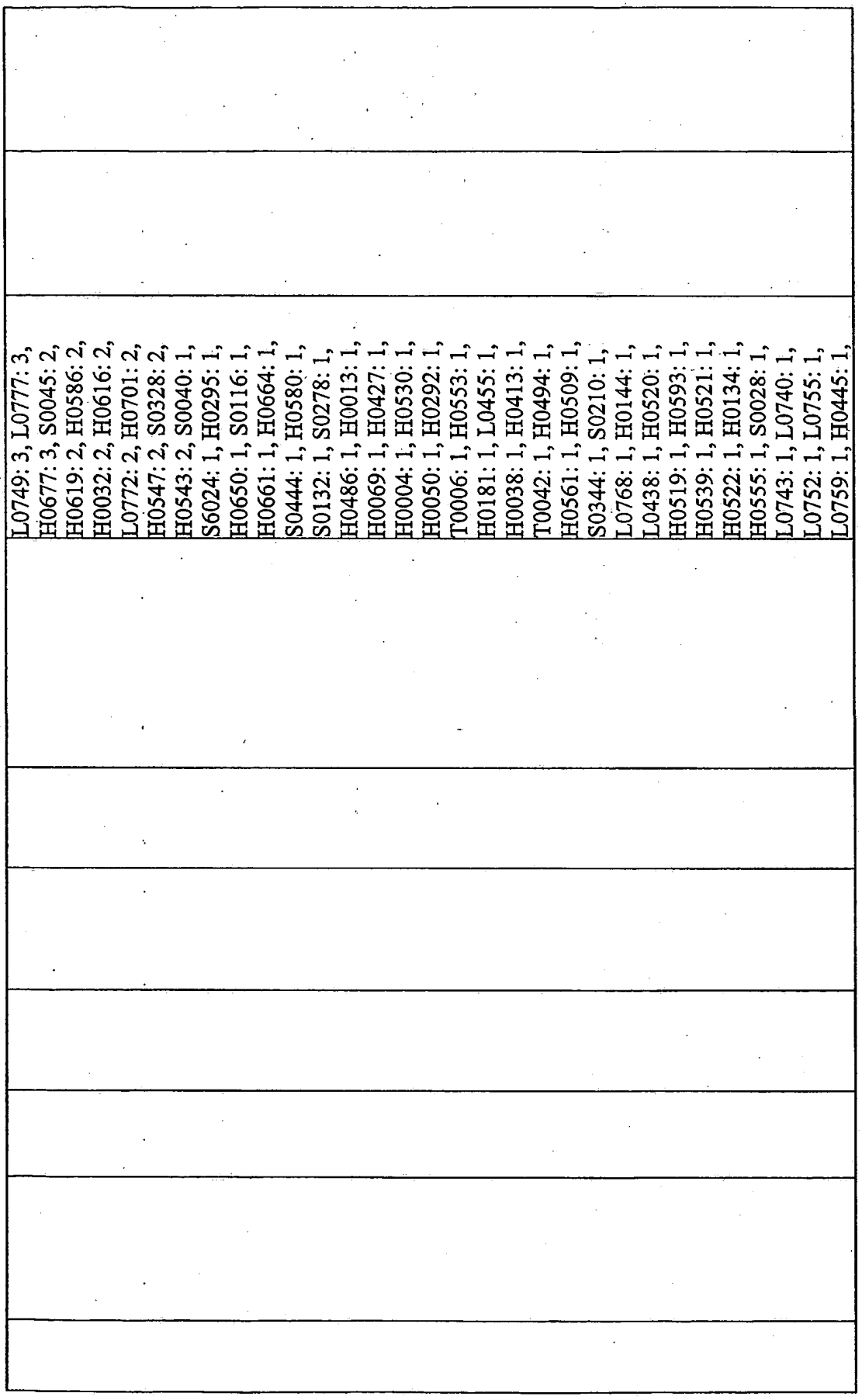
							S0206: 1, S0032: 1, L0741: 1, L0749: 1, L0786: 1, L0777: 1, L0758: 1, S0026: 1 and H0506: 1.		
63	HHFOO84	857780	73	78 - 275	973		AR089: 7, AR061: 4 S0344: 3, H0539: 2, L0758: 2, H0685: 1, H0657: 1, H0656: 1, S0116: 1, H0341: 1, H0645: 1, H0549: 1, H0331: 1, H0574: 1, T0039: 1, H0318: 1, H0050: 1, H0135: 1, H0641: 1, L0374: 1, L0662: 1, L0768: 1, L0803: 1, L0775: 1, L0776: 1, L0368: 1, L0665: 1, H0689: 1, H0435: 1, H0659: 1, H0134: 1, L0749: 1, L0779: 1, L0759: 1 and S0194: 1.		
64	HISAM68	1125189	74	590 - 3	974	Arg-9 to Leu-28, Ser-108 to Thr-113, Gly-152 to Gly-159, Pro-170 to Ser-184.	AR089: 1, AR061: 0 L0803: 6, L0774: 2, H0056: 1, L0761: 1, L0800: 1, L0766: 1, L0806: 1 and H0539: 1.		
		868785	687	1 - 498	1587	Ser-84 to Thr-89, Gly-128 to Gly-135,			

65	HLHDD45	942901	75	21 - 230	975	Pro-146 to Ser-160.	Lys-1 to Gly-9, Ser-30 to Gly-36.	AR089: 33, AR061: 7 H0556: 3, H0208: 3, H0619: 3, H0050: 3, L0471: 3, H0179: 3, H0644: 3, S0344: 3, H0521: 3, L0439: 3, S0420: 2, S0360: 2, H0599: 2, H0264: 2, H0280: 2, S0210: 2, H0547: 2, H0658: 2, L0750: 2, L0731: 2, L0588: 2, L0604: 2, H0543: 2, H0265: 1, T0002: 1, H0140: 1, S0114: 1, H0341: 1, S0001: 1, H0669: 1, H0662: 1, H0306: 1, S0418: 1, H0580: 1, L0717: 1, H0549: 1, H0453: 1, H0592: 1, H0497: 1, H0632: 1, T0039: 1, T0112: 1, H0575: 1, H0036: 1, H0309: 1, H0544: 1, H0172: 1, H0123: 1, H0620: 1, H0024: 1, H0051: 1, H0188: 1, H0615: 1, H0604: 1, H0031: 1, L0456: 1,		

66	HMMAB49	1087684	76	462 - 160	976	Lys-8 to Ser-13, Lys-52 to Ser-69, Cys-87 to His-93.	H0124: 1, H0376: 1, S0036: 1, H0059: 1, H0100: 1, T0041: 1, T0042: 1, S0150: 1, H0646: 1, H0538: 1, L0637: 1, L0551: 1, L0803: 1, L0659: 1, L0789: 1, L0663: 1, L0438: 1, H0520: 1, H0519: 1, S0126: 1, H0689: 1, H0651: 1, H0539: 1, S0152: 1, S0028: 1, L0748: 1, L0777: 1, L0753: 1, H0343: 1, L0591: 1, L0592: 1, L0593: 1, H0423: 1, H0422: 1, H0506: 1 and H0008: 1.	AR089: 53, AR061: 4 H0444: 2		
		462502	688	1 - 204	1588				
67	HMSGO27	683031	77	236 - 3	977	Leu-20 to Gly-25, Pro-28 to His-40.	AR089: 11, AR051: 7, AR061: 1, AR054: 0 H0638: 1, H0046: 1, S0112: 1 and S0002: 1.		
		943946	689	127 - 462	1589	Ser-1 to Leu-6, His-54 to Cys-61.			
		947911	690	55 - 171	1590	Phe-1 to Arg-12.			
68	HNHAM52	1125710	78	880 - 539	978		AR061: 2, AR089: 1		

								H0457: 1, H0674: 1, L0803: 1, S0053: 1, L0756: 1 and L0592: 1.		
		457010	691	12 - 131	1591	Arg-1 to Asp-6, Glu-26 to Ser-33.				
69	HNHEQ86	785580	79	1 - 129	979			AR061: 0, AR089: 0 S6024: 1, S0001: 1, S0053: 1, S0216: 1, S0028: 1 and S0260: 1.		
70	HNHHF46	1123883	80	1348 - 1040	980			AR061: 4, AR089: 4 L0748: 7, L0774: 2, S0216: 2, L0749: 2, H0455: 1, S0038: 1, S0464: 1, L0637: 1, L0804: 1, L0789: 1 and S0053: 1.		
		859822	692	3 - 284	1592					
71	HOECV83	1123893	81	1076 - 1456	981	Pro-53 to Glu-63, Ser-105 to Glu-111.		AR061: 3, AR089: 2 S0354: 2, L0438: 2, L0750: 2, L0586: 1, H0581: 1, H0052: 1, H0009: 1, L0471: 1, L0179: 1, S0003: 1, L0055: 1, L0655: 1, L0526: 1, S0126: 1, H0521: 1 and S0424: 1.		
		653276	693	198 - 389	1593					
72	HORBO54	870674	82	115 - 549	982			AR061: 4, AR089: 2 L0758: 4, H0556: 3, H0657: 3, H0435: 3,		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H0555: 1, S0028: 1,
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							L0596: 1, L0595: 1, H0542: 1, H0423: 1 and S0424: 1.	
73	HOSFZ73	1122896	83	182 - 3	983	Glu-41 to Arg-47.	AR089: 74, AR061: 10 S0027: 5, S0356: 2, H0561: 2, L0662: 2, H0659: 2, L0591: 2, H0543: 2, S0282: 1, S0354: 1, H0619: 1, H0575: 1, S0010: 1, S0214: 1, H0674: 1, L0455: 1, H0494: 1, S0142: 1, L0667: 1, L0803: 1, L0805: 1, L0666: 1, L0663: 1, L0664: 1, H0539: 1, H0521: 1, H0436: 1, H0478: 1, H0631: 1, L0755: 1 and S0260: 1.	
		913876	694	233 - 370	1594			
74	HPIAU71	1123830	84	306 - 776	984	Ser-111 to Ala-121.	AR089: 1, AR061: 1 S0150: 2, S3014: 1 and S0028: 1.	
		786811	695	55 - 333	1595	Phe-36 to Ser-54, Ala-64 to Asn-70.		
75	HRDBT72	1112136	85	860 - 576	985		AR089: 49, AR061: 16 H0124: 3	
		507847	696	226 - 354	1596			
76	HSDFT51	1124582	86	1369 - 812	986	Ala-155 to Glu-160, Arg-166 to Gln-175.	AR061: 6, AR089: 3 L0618: 1, L0770: 1,	

		947918	697	1 - 591	1597	Ala-155 to Glu-160.	L0803: 1 and S0031: 1.		
77	HSDJM56	948669	87	3 - 755	987	Val-174 to Pro-179, Pro-192 to Ile-207.	AR089: 1, AR061: 1 S0028: 3, S0428: 2, S0282: 1, S0045: 1, S0132: 1, S0222: 1, H0416: 1, S0052: 1, S0152: 1 and S0260: 1.		
78	HSICX21	531267	88	223 - 378	988	Asn-5 to His-12.	AR089: 2, AR061: 0 H0036: 2		
79	HSIDS82	531248	89	146 - 301	989	His-28 to Gln-36.	AR061: 6, AR089: 3 H0036: 2, H0619: 1, H0050: 1 and L0792: 1.		
80	HSNAH21	571314	90	64 - 249	990	Ser-2 to Arg-7, Arg-22 to Pro-28.	AR061: 3, AR089: 1 L0659: 7, L0777: 7, S0358: 6, H0486: 6, H0622: 6, S0360: 4, L0662: 4, H0013: 3, H0144: 3, S0328: 3, L0751: 3, L0731: 3, H0624: 2, H0619: 2, H0328: 2, H0163: 2, L0520: 2, L0764: 2, L0747: 2, S0116: 1, S0356: 1, S0376: 1, H0431: 1, H0600: 1, H0632: 1, H0244: 1, H0599: 1, H0123: 1, H0050: 1, H0051: 1, S0250: 1, H0688: 1,		

							H0039: 1, H0090: 1, H0591: 1, H0040: 1, H0102: 1, S0150: 1, H0647: 1, H0646: 1, L0640: 1, L0763: 1, L0768: 1, L0649: 1, L0806: 1, L0793: 1, L0666: 1, H0690: 1, H0684: 1, H0658: 1, H0648: 1, L0779: 1, L0780: 1, L0759: 1 and S0011: 1.		
						Gln-36 to Asp-41, Ser-73 to Glu-82, Phe-85 to Arg-98, Leu-170 to Glu-176, Lys-226 to Asp-239, Gly-285 to Leu-297, Asp-327 to Glu-339, Glu-343 to Leu-348.	AR089: 5, AR061: 1 H0038: 5, L0748: 5, L0777: 5, L0766: 4, L0769: 3, L0756: 3, L0759: 3, S6028: 2, H0271: 2, L0776: 2, H0435: 2, L0754: 2, L0747: 2, L0779: 2, L0752: 2, L0758: 2, H0595: 2, L0596: 2, H0393: 1, H0431: 1, H0486: 1, H0427: 1, H0004: 1, H0318: 1, H0085: 1, H0546: 1, L0471: 1, S0022: 1, H0252: 1, H0644: 1, H0673: 1, H0674: 1, H0616: 1, H0124: 1,
					991				
					1334 - 222				
					91				
				966264					
			HSODC08						
		81							

							S0142: 1, S0422: 1, L0770: 1, L0761: 1, L0771: 1, L0775: 1, L0653: 1, L0634: 1, L0659: 1, L0544: 1, L0664: 1, H0144: 1, S0126: 1, H0670: 1, H0555: 1, H0436: 1, H0627: 1, S0028: 1, L0780: 1, L0731: 1, L0757: 1, L0361: 1, S0026: 1, S0412: 1 and L0697: 1.		
82	HSPAB58	736098	92	3 - 116	992	Ser-20 to Tyr-25.	AR089: 1, AR061: 0 H0478: 1, L0748: 1 and L0749: 1.		
83	HSQCM85	963554	93	184 - 444	993		AR050: 19, AR054: 9, AR051: 5, AR089: 1, AR061: 0 S0216: 1 and S0026: 1.		
84	HTOIA82	844319	94	41 - 286	994	Arg-44 to Gly-59.	AR061: 4, AR089: 2 H0264: 1 and L0754: 1.		
85	HUUDH57	931155	95	2 - 2167	995	Pro-52 to Thr-58, Pro-115 to Asp-122, Asp-190 to Ile-208.	AR089: 11, AR061: 1 H0543: 4, S0354: 3, H0423: 3, H0656: 2, L0749: 2, H0306: 1, H0638: 1, S0356: 1, S0358: 1, S0360: 1, H0637: 1, S0046: 1,		

							S0132: 1, H0486: 1, H0090: 1, S0112: 1, T0042: 1, H0494: 1, S0210: 1, L0770: 1, L0662: 1, L0659: 1, L0665: 1, H0682: 1, L0779: 1, H0445: 1, H0653: 1 and S0424: 1.		
86	HWACV74	1145916	96	960 - 745	996		AR089: 2, AR061: 1 H0581: 2, H0657: 1, S0358: 1, S0046: 1, S0222: 1, H0486: 1, H0551: 1, L0761: 1, L0766: 1, L0774: 1, L0659: 1, L0666: 1, L0664: 1 and H0435: 1.		
		662347	698	162 - 341	1598	Ser-26 to Ser-33.			
87	HWAFW39	947915	97	188 - 370	997		AR089: 2, AR061: 1 H0255: 1 and H0581: 1.		
88	HWBBR65	1156447	98	2076 - 1705	998	Lys-1 to Gln-8, Gln-28 to Gly-34, Pro-46 to Arg-51.	AR089: 28, AR061: 24 L0748: 2, H0580: 1 and H0421: 1.		
		747723	699	32 - 232	1599	Gly-1 to Ser-9.			
89	HWMES65	969190	99	2 - 382	999	Asp-30 to Trp-35, Ser-38 to Arg-43.	AR089: 17, AR061: 11 S0358: 2 and H0539: 1.		
90	HISBG28	920850	100	184 - 816	1000	Leu-91 to Glu-98, Ile-110 to Tyr-116, Ser-160 to Thr-168, Gly-175 to His-182.	AR061: 0, AR089: 0 L0766: 10, L0779: 3, L0759: 2, S0114: 1, S0116: 1, H0431: 1,		

					H0013: 1, H0251: 1, H0628: 1, H0646: 1, L0761: 1, L0662: 1, L0776: 1, L0665: 1, H0702: 1, H0520: 1, H0539: 1, L0749: 1, L0750: 1, H0444: 1, H0445: 1 and H0543: 1.		
91	HAJAE60	786337	101	3 - 377	1001	Pro-32 to His-49.	AR089: 1, AR061: 1 L0439: 13, L0740: 12, H0046: 10, H0556: 9, L0752: 9, H0052: 7, H0617: 7, L0748: 7, L0758: 7, S0222: 6, L0754: 6, S0049: 5, H0620: 5, S0002: 5, L0769: 5, L0438: 5, L0741: 5, L0731: 5, S0278: 4, H0599: 4, S0010: 4, L0163: 4, L0804: 4, L0663: 4, H0144: 4, H0521: 4, L0742: 4, L0743: 4, L0751: 4, L0753: 4, H0657: 3, H0618: 3, H0050: 3, L0471: 3, S0051: 3, T0010: 3, S6028: 3, H0266: 3, H0551: 3, H0494: 3, S0144: 3, H0529: 3,	22q13.2-q13.31	188826, 250100, 250800, 250800

L0763: 3, L0770: 3,
L0771: 3, L0766: 3,
L0775: 3, L0659: 3,
L0809: 3, L0666: 3,
S0330: 3, H0696: 3,
L0747: 3, L0757: 3,
L0759: 3, H0265: 2,
H0656: 2, S0418: 2,
L0149: 2, H0333: 2,
H0427: 2, H0042: 2,
H0590: 2, H0457: 2,
H0041: 2, S0003: 2,
T0006: 2, S0364: 2,
H0124: 2, S0366: 2,
H0135: 2, L0638: 2,
L0637: 2, L0372: 2,
L0662: 2, L0776: 2,
L0655: 2, L0789: 2,
S0374: 2, H0658: 2,
H0660: 2, S0152: 2,
L0485: 2, L0599: 2,
L0601: 2, H0506: 2,
S0040: 1, H0650: 1,
H0341: 1, S0212: 1,
S0282: 1, H0663: 1,
H0459: 1, H0638: 1,
S0420: 1, L0617: 1,
S0360: 1, S0408: 1,
H0208: 1, S0132: 1,
H0645: 1, H0370: 1,
L0622: 1, L0623: 1,

		H0486: 1, H0013: 1, S0280: 1, H0156: 1, L0021: 1, H0097: 1, H0575: 1, H0036: 1, S0346: 1, H0318: 1, H0230: 1, H0596: 1, H0597: 1, H0231: 1, H0150: 1, H0009: 1, N0006: 1, H0242: 1, H0012: 1, H0024: 1, H0373: 1, H0051: 1, H0083: 1, H0267: 1, H0292: 1, H0604: 1, H0553: 1, H0181: 1, H0168: 1, H0163: 1, H0090: 1, T0067: 1, H0264: 1, S0038: 1, S0386: 1, S0112: 1, L0351: 1, T0042: 1, H0561: 1, S0370: 1, S0142: 1, S0344: 1, L0640: 1, L0761: 1, L0667: 1, L0373: 1, L0646: 1, L0641: 1, L0374: 1, L0764: 1, L0773: 1, L0521: 1, L0626: 1, L0794: 1, L0533: 1, L0651: 1, L0376: 1, L0806: 1, L0805: 1, L0657: 1, L0634: 1, L0542: 1,				

								L0783: 1, L0529: 1, L0787: 1, L0665: 1, H0519: 1, S0380: 1, H0522: 1, H0436: 1, H0576: 1, L0609: 1, L0744: 1, L0745: 1, L0749: 1, L0786: 1, L0777: 1, L0755: 1, H0444: 1, L0584: 1, L0595: 1, S0011: 1, H0422: 1 and H0008: 1.		
92	HDPDE32	1217181	102	39 - 890	1002	Arg-25 to Glu-30.		AR089: 10, AR061: 3 H0703: 7, H0494: 3, H0699: 3, H0542: 3, H0546: 1, H0684: 1, H0521: 1, S0031: 1 and H0543: 1.		
		973342	700	165 - 647	1600	Asn-1 to Arg-6.				
93	HBDAC79	1199232	103	82 - 477	1003	Lys-12 to Lys-19, Phe-48 to Phe-57, Gly-120 to Gly-126.		AR089: 2, AR061: 1 H0556: 2, L0766: 2, S0418: 1, S0442: 1, H0393: 1, H0261: 1, S0222: 1, H0545: 1, H0050: 1, S6028: 1, H0551: 1, H0494: 1, S0144: 1, S0002: 1, H0529: 1, H0521: 1, L0439: 1, L0759: 1, S0308: 1, L0366: 1 and H0506: 1.		

		935414	701	1 - 366	1601	Met-4 to Lys-12, Phe-41 to Phe-50.			
94	HEMDX48	1163778	104	46 - 1929	1004	Ala-32 to Thr-39, Glu-88 to Lys-107, Thr-165 to Tyr-172, Thr-204 to Lys-210, Thr-262 to Gly-271, Thr-335 to Leu-343, Arg-476 to Leu-482, Ser-504 to Cys-514, Gln-592 to Val-608, Pro-623 to Cys-628.	AR061: 7, AR089: 3 L0666: 4, L0747: 4, L0783: 3, L0665: 3, L0602: 3, S0222: 2, H0318: 2, H0553: 2, H0135: 2, L0763: 2, L0772: 2, L0662: 2, H0660: 2, H0436: 2, L0743: 2, L0751: 2, L0750: 2, L0411: 1, H0265: 1, H0556: 1, H0685: 1, S0418: 1, S0420: 1, S0358: 1, S0046: 1, L0717: 1, H0351: 1, S6014: 1, H0431: 1, H0486: 1, H0013: 1, H0253: 1, H0052: 1, L0157: 1, H0271: 1, H0617: 1, H0090: 1, H0494: 1, H0396: 1, H0509: 1, H0652: 1, S0002: 1, S0426: 1, L0769: 1, L0764: 1, L0767: 1, L0766: 1, L0775: 1, L0806: 1, L0809: 1, T0068: 1, H0693: 1, L0352: 1, H0520: 1,		

								H0547: 1, S0152: 1, H0521: 1, S0404: 1, H0555: 1, S0027: 1, S0028: 1, L0779: 1, L0780: 1, L0752: 1, L0755: 1, L0731: 1, L0758: 1, H0707: 1, L0593: 1, L0603: 1, H0136: 1 and S0242: 1.		
95	HHASB48	721150	521844	105	702	46 - 651	1 - 321	1005	1602	Ala-32 to Thr-39, Glu-88 to Lys-107, Thr-165 to Tyr-172.	Thr-47 to Gly-56.	AR061: 0, AR089: 0 L0666: 4, L0747: 4, L0783: 3, L0665: 3, L0602: 3, S0222: 2, H0318: 2, H0553: 2, H0135: 2, L0763: 2, L0772: 2, L0662: 2, H0660: 2, H0436: 2, L0743: 2, L0751: 2, L0750: 2, L0411: 1, H0265: 1, H0556: 1, H0685: 1, S0418: 1, S0420: 1, S0358: 1, S0046: 1, L0717: 1, H0351: 1, S6014: 1, H0431: 1, H0486: 1, H0013: 1, H0253: 1, H0052: 1, L0157: 1, H0271: 1, H0617: 1, H0090: 1, H0494: 1,

							H0396: 1, H0509: 1, H0652: 1, S0002: 1, S0426: 1, L0769: 1, L0764: 1, L0767: 1, L0766: 1, L0775: 1, L0806: 1, L0809: 1, T0068: 1, H0693: 1, L0352: 1, H0520: 1, H0547: 1, S0152: 1, H0521: 1, S0404: 1, H0555: 1, S0027: 1, S0028: 1, L0779: 1, L0780: 1, L0752: 1, L0755: 1, L0731: 1, L0758: 1, H0707: 1, L0593: 1, L0603: 1, H0136: 1 and S0242: 1.		
96	HLWCA17	1104762	106	326 - 1012	1006		AR089: 13, AR061: 4 S0358: 1, S0046: 1, H0592: 1, H0036: 1, H0318: 1, S0003: 1, H0553: 1, L0766: 1, H0672: 1, L0439: 1, L0756: 1, L0755: 1, L0731: 1 and L0757: 1.		
		957664	703	515 - 934	1603					
97	HNTTD09	1104487	107	152 - 940	1007		AR061: 1, AR089: 0 H0656: 1, H0587: 1, H0036: 1, H0590: 1, L0143: 1, H0547: 1,			

		676665	704	3 - 425	1604		H0689: 1 and H0653: 1.		
98	HSKDT07	927823	108	1 - 918	1008		AR061: 7, AR089: 4 L0666: 4, L0747: 4, L0783: 3, L0665: 3, L0602: 3, S0222: 2, H0318: 2, H0553: 2, H0135: 2, L0763: 2, L0772: 2, L0662: 2, H0660: 2, H0436: 2, L0743: 2, L0751: 2, L0750: 2, L0411: 1, H0265: 1, H0556: 1, H0685: 1, S0418: 1, S0420: 1, S0358: 1, S0046: 1, L0717: 1, H0351: 1, S6014: 1, H0431: 1, H0486: 1, H0013: 1, H0253: 1, H0052: 1, L0157: 1, H0271: 1, H0617: 1, H0090: 1, H0494: 1, H0396: 1, H0509: 1, H0652: 1, S0002: 1, S0426: 1, L0769: 1, L0764: 1, L0767: 1, L0766: 1, L0775: 1, L0806: 1, L0809: 1, T0068: 1, H0693: 1, L0352: 1, H0520: 1,		

									H0547: 1, S0152: 1, H0521: 1, S0404: 1, H0555: 1, S0027: 1, S0028: 1, L0779: 1, L0780: 1, L0752: 1, L0755: 1, L0731: 1, L0758: 1, H0707: 1, L0593: 1, L0603: 1, H0136: 1 and S0242: 1.		
99	HSRDB26	1102231	109	21 - 410	1009				AR089: 1, AR061: 1 S0022: 1, S0028: 1 and S0260: 1.		
		525475	705	15 - 347	1605						
100	HAPBS07	967325	110	1 - 315	1010	Glu-44 to Pro-49.			AR061: 5, AR089: 2 S0002: 4, S0344: 3, S0278: 2, S0358: 1, H0042: 1, H0575: 1, S0010: 1, H0373: 1, S0003: 1, H0163: 1, H0038: 1, H0616: 1, H0264: 1, H0100: 1, S0144: 1 and H0521: 1.		
101	HAUAI17	921674	111	118 - 780	1011	Lys-50 to Gly-55, Thr-73 to Val-78, Thr-85 to Arg-91, Pro-103 to Ser-112, Leu-199 to Ser-207, Pro-209 to Ser-214.			AR061: 2, AR089: 1 L0803: 6, L0748: 5, L0749: 4, H0424: 3, L0804: 3, L0774: 3, L0779: 3, H0213: 2, S0142: 2, L0789: 2, L0745: 2, L0731: 2, H0294: 1, H0254: 1,		

							H0393: 1, H0549: 1, H0427: 1, H0156: 1, T0082: 1, H0052: 1, H0150: 1, H0024: 1, H0135: 1, H0268: 1, H0100: 1, S0344: 1, L0763: 1, L0769: 1, L0662: 1, L0775: 1, L0805: 1, L0657: 1, L0666: 1, H0144: 1, L0740: 1, L0750: 1 and L0755: 1.		
102	HBCBT19	959953	112	136 - 585	1012	Asp-40 to Arg-48, Ser-68 to Ile-73, Asn-79 to His-84.	AR061: 7, AR089: 4 L0803: 6, L0766: 3, L0758: 3, L0790: 2, L0743: 2, L0748: 2, L0747: 2, L0750: 2, L0779: 2, L0755: 2, H0255: 1, H0370: 1, H0530: 1, H0150: 1, S0344: 1, L0763: 1, L0769: 1, L0637: 1, L0764: 1, L0804: 1, L0774: 1, L0805: 1, L0776: 1, L0783: 1, L0809: 1, L0664: 1, L0665: 1, L0752: 1, L0731: 1, L0681: 1 and H0543: 1.		
103	HBCPT10	957631	113	260 - 838	1013		AR061: 2, AR089: 2		

						S0360: 2, H0550: 2, S0028: 2, H0543: 2, H0663: 1, H0638: 1, S0376: 1, H0580: 1, S0045: 1, H0393: 1, H0370: 1, H0392: 1, H0156: 1, H0618: 1, H0318: 1, H0135: 1, T0042: 1, H0366: 1, S0002: 1, L0803: 1, L0791: 1, S0126: 1, S0037: 1, S0027: 1, S0032: 1, L0741: 1, L0754: 1, H0445: 1, L0596: 1, S0026: 1 and H0542: 1.		
104	HBGDA14	866258	114	3 - 503	1014	Gln-9 to Gln-16, Thr-33 to Gly-42, Gly-94 to Gln-101, Asp-108 to Arg-114.	AR061: 794, AR089: 295 S0050: 2, S0031: 2, S0260: 2, H0181: 1, H0617: 1 and S0390: 1.		
105	HCHNJ32	934848	115	3 - 764	1015	Thr-1 to Ser-9, Ser-146 to Thr-154, Thr-200 to Lys-208.	AR061: 113, AR089: 26 L0748: 15, L0581: 11, H0510: 9, H0617: 9, L0755: 7, H0484: 6, H0673: 6, L0769: 6, L0758: 5, S0278: 4, H0327: 4, H0124: 4, L0774: 4, L0526: 4,		

L0751: 4, H0549: 3,
H0370: 3, H0150: 3,
L0771: 3, L0518: 3,
L0756: 3, L0777: 3,
L0759: 3, H0295: 2,
H0341: 2, H0125: 2,
S0418: 2, H0676: 2,
H0550: 2, H0391: 2,
H0331: 2, H0559: 2,
H0199: 2, H0424: 2,
H0509: 2, H0529: 2,
L0803: 2, L0517: 2,
L0529: 2, L0789: 2,
L0665: 2, S0328: 2,
H0696: 2, L0743: 2,
L0753: 2, S0434: 2,
L0596: 2, H0624: 1,
H0584: 1, L0002: 1,
H0657: 1, S0420: 1,
S0376: 1, S0360: 1,
H0637: 1, S0046: 1,
H0574: 1, H0632: 1,
L0622: 1, L0623: 1,
H0486: 1, H0156: 1,
L0021: 1, H0599: 1,
H0618: 1, H0253: 1,
H0390: 1, H0052: 1,
H0184: 1, T0110: 1,
H0086: 1, H0197: 1,
H0014: 1, H0083: 1,
H0355: 1, S0318: 1,

106	HCHON59	931082	116	511 - 1344	1016	Gln-93 to Thr-99, Pro-124 to Gln-129,	S0316: 1, H0687: 1, H0615: 1, H0428: 1, H0604: 1, H0181: 1, H0606: 1, H0032: 1, H0674: 1, S0036: 1, H0090: 1, H0038: 1, H0616: 1, H0087: 1, H0413: 1, H0129: 1, H0494: 1, S0144: 1, S0142: 1, S0344: 1, L0520: 1, L0763: 1, L0638: 1, L0772: 1, L0372: 1, L0768: 1, L0794: 1, L0766: 1, L0775: 1, L0607: 1, L0657: 1, L0783: 1, L0384: 1, L0809: 1, L0519: 1, L0543: 1, L0368: 1, S0052: 1, S0374: 1, H0689: 1, H0539: 1, S0378: 1, H0521: 1, H0694: 1, S0188: 1, H0134: 1, S3014: 1, S0027: 1, L0744: 1, L0745: 1, L0752: 1, H0595: 1, L0605: 1, L0604: 1, H0136: 1 and H0543: 1.	AR089: 1, AR061: 0 L0748: 8, L0439: 6,	

					Glu-153 to Leu-159, Gln-162 to Gly-168, Ser-198 to Gly-203, Lys-210 to Asn-215, Gly-219 to Gln-224.	L0766: 4, L0803: 4, L0749: 3, S0358: 2, H0574: 2, H0327: 2, H0539: 2, L0758: 2, S0026: 2, S0212: 1, H0484: 1, S0354: 1, S0046: 1, H0592: 1, T0114: 1, H0427: 1, H0590: 1, H0581: 1, H0046: 1, H0081: 1, H0015: 1, H0051: 1, T0006: 1, H0040: 1, H0268: 1, S0438: 1, S0422: 1, H0529: 1, L0763: 1, L0770: 1, L0662: 1, L0794: 1, L0649: 1, L0775: 1, L0515: 1, L0792: 1, H0520: 1, H0547: 1, H0435: 1, S0328: 1, S0380: 1, S0152: 1, H0521: 1, L0356: 1, L0747: 1, L0753: 1, L0485: 1 and H0423: 1.		
107	HCUGN19	716989	117	35 - 382	1017	Glu-58 to Gly-64, Pro-77 to Cys-93, Pro-96 to Pro-106.	AR089: 7, AR061: 2 L0744: 3, L0766: 2, H0402: 1 and L0754: 1.			
108	HCUGR38	706471	118	3 - 317	1018	Ser-2 to His-7, Pro-14 to Leu-20, Ala-33 to Gly-38.	AR089: 1, AR061: 0 H0402: 1 and H0305: 1.			

109	HDPND85	852628	119	68 - 853	1019	Ser-1 to Pro-10.	AR089: 0, AR061: 0 L0747: 6, H0638: 3, L0758: 3, L0157: 2, H0529: 2, L0764: 2, L0774: 2, L0776: 2, H0521: 2, H0522: 2, L0779: 2, L0603: 2, H0662: 1, S0358: 1, S0222: 1, H0038: 1, H0625: 1, S0448: 1, L0371: 1, L0770: 1, L0796: 1, L0775: 1, L0809: 1, L0791: 1, L0666: 1, H0144: 1, H0520: 1, H0436: 1, L0748: 1, L0755: 1 and L0731: 1.			
110	HDPRN38	883658	120	78 - 749	1020	Leu-60 to Gln-65, Arg-76 to Val-81.	AR089: 11, AR061: 3 H0510: 2, L0666: 2, L0740: 2, L0595: 2, H0657: 1, H0580: 1, H0619: 1, H0357: 1, H0632: 1, H0013: 1, H0024: 1, H0578: 1, H0591: 1, H0509: 1, L0769: 1, L0804: 1, L0774: 1, L0805: 1, L0776: 1, L0527: 1, H0521: 1, H0555: 1, L0749: 1, L0757: 1 and			

111	HE8AM92	952610	121	157 - 603	1021	Met-9 to Glu-16, Glu-41 to Trp-47, Arg-55 to Glu-62, Asp-135 to Pro-149.	H0423: 1. AR061: 28, AR089: 11 L0439: 21, L0438: 13, H0144: 6, H0521: 6, H0543: 5, H0013: 4, S0003: 4, L0740: 4, L0766: 3, L0759: 3, L0588: 3, S0116: 2, H0662: 2, S0358: 2, L0738: 2, H0046: 2, S0214: 2, H0039: 2, H0591: 2, H0264: 2, H0560: 2, L0770: 2, L0764: 2, L0803: 2, L0774: 2, L0659: 2, L0666: 2, H0670: 2, H0672: 2, L0743: 2, L0749: 2, L0752: 2, L0731: 2, L0758: 2, H0445: 2, H0170: 1, H0265: 1, H0583: 1, H0657: 1, S0282: 1, S0376: 1, S0360: 1, H0580: 1, H0261: 1, S0222: 1, H0586: 1, H0497: 1, L0021: 1, H0575: 1, H0036: 1, H0318: 1, H0581: 1, H0251: 1, T0115: 1, L0040: 1, H0327: 1,		

							S0388: 1, T0010: 1, H0266: 1, H0687: 1, S0250: 1, S0022: 1, H0622: 1, S0036: 1, H0090: 1, H0040: 1, T0067: 1, H0488: 1, H0413: 1, H0494: 1, S0150: 1, H0641: 1, S0002: 1, L0598: 1, H0529: 1, L0374: 1, L0771: 1, L0773: 1, L0521: 1, L0794: 1, L0775: 1, L0655: 1, L0606: 1, L0657: 1, L0663: 1, S0374: 1, H0520: 1, S0126: 1, H0659: 1, S0152: 1, S0432: 1, S0028: 1, L0750: 1, L0779: 1, L0777: 1, H0707: 1, L0589: 1, L0599: 1, L0593: 1, H0136: 1, S0242: 1, H0423: 1 and H0422: 1.	
112	HE9RE21	888243	122	3 - 422	1022	Arg-3 to Ser-15, Ser-103 to Gln-111.	AR089: 10, AR061: 3 H0556: 1, S0114: 1, S0134: 1, S0360: 1, T0082: 1, H0052: 1, H0644: 1, H0551: 1, L0770: 1, L0789: 1,	

							H0144: 1, H0435: 1 and H0436: 1.		
113	HETKH30	884009	123	90 - 884	1023	Arg-1 to Lys-8.	AR061: 1, AR089: 1 H0046: 5, H0040: 2, H0519: 2, L0439: 2, L0758: 2, H0575: 1 and T0042: 1.		
114	HHAME78	840939	124	3 - 263	1024		AR089: 1, AR061: 1 H0624: 1, S0420: 1, S0366: 1, H0135: 1, H0494: 1, S0422: 1, L0745: 1 and L0758: 1.		
115	HKABI68	856590	125	1 - 471	1025	Arg-20 to Arg-30, Arg-74 to Lys-82.	AR089: 23, AR061: 12 S0046: 1, H0100: 1, H0494: 1, H0521: 1, H0522: 1 and S0028: 1.		
116	HKMLN95	914083	126	2 - 583	1026		AR089: 7, AR061: 2 S0003: 5, S0354: 2, S0214: 2, H0519: 2, H0689: 2, H0522: 2, L0748: 2, L0439: 2, L0731: 2, L0759: 2, H0171: 1, T0002: 1, S0040: 1, H0669: 1, S0356: 1, S0360: 1, H0431: 1, H0586: 1, H0574: 1, H0632: 1, H0156: 1, H0590: 1, T0110: 1, L0471: 1, S6028: 1, H0628: 1,		

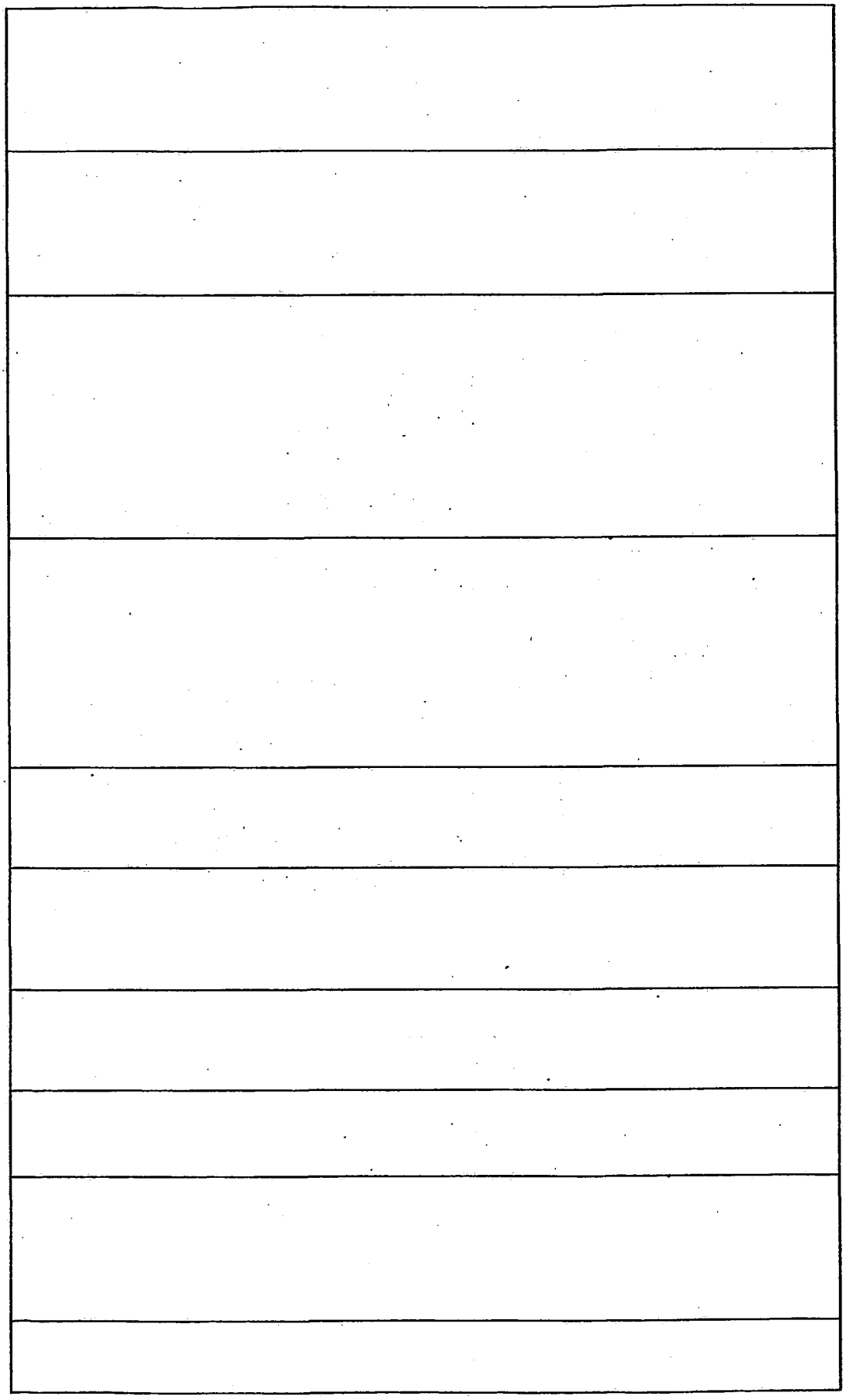
						S0036: 1, H0494: 1, S0450: 1, S0144: 1, L0803: 1, L0438: 1, H0520: 1, H0547: 1, H0660: 1, S0328: 1, H0521: 1, S0434: 1, L0605: 1, L0599: 1, L0593: 1 and H0543: 1.			
117	HMCFA91	959954	127	1 - 729	1027	Cys-1 to Ala-10.	AR061: 87, AR089: 61 L0803: 6, L0766: 3, L0758: 3, L0790: 2, L0743: 2, L0748: 2, L0747: 2, L0750: 2, L0779: 2, L0755: 2, H0255: 1, H0370: 1, H0530: 1, H0150: 1, S0344: 1, L0763: 1, L0769: 1, L0637: 1, L0764: 1, L0804: 1, L0774: 1, L0805: 1, L0776: 1, L0783: 1, L0809: 1, L0664: 1, L0665: 1, L0752: 1, L0731: 1, L0681: 1 and H0543: 1.			
118	HNTBF75	836701	128	43 - 330	1028		AR089: 13, AR061: 5 S0003: 5, S0354: 2, S0214: 2, H0519: 2, H0689: 2, H0522: 2, L0748: 2, L0439: 2,		

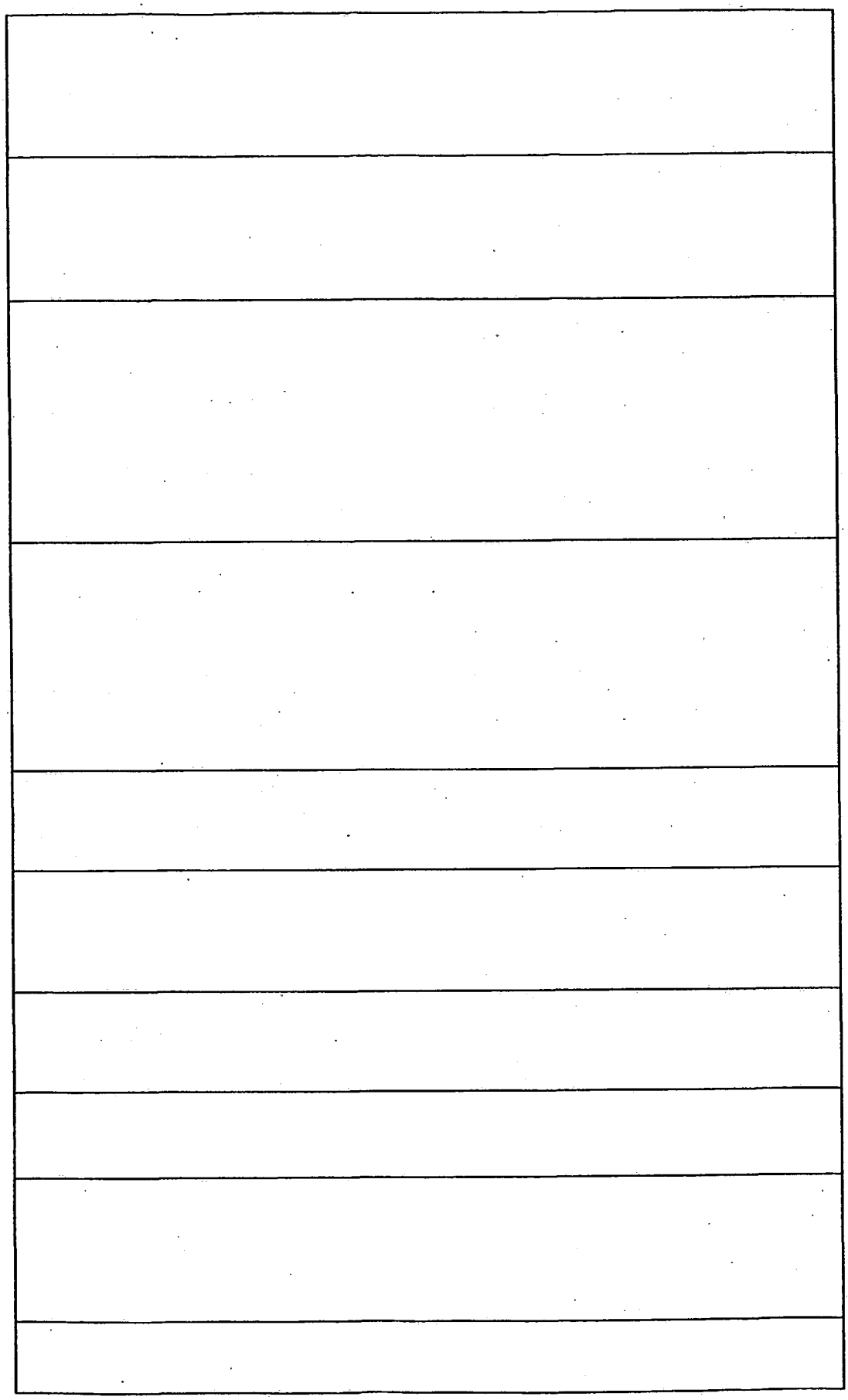
							L0731: 2, L0759: 2, H0171: 1, T0002: 1, S0040: 1, H0669: 1, S0356: 1, S0358: 1, S0360: 1, H0431: 1, H0586: 1, H0574: 1, H0632: 1, H0156: 1, H0575: 1, H0590: 1, T0110: 1, L0471: 1, S6028: 1, H0628: 1, S0036: 1, H0494: 1, S0450: 1, S0144: 1, L0803: 1, L0809: 1, L0438: 1, H0520: 1, H0547: 1, H0660: 1, S0328: 1, H0521: 1, S0434: 1, L0605: 1, L0599: 1, L0593: 1, H0668: 1 and H0543: 1.		
119	HPTGB43	726460	129	3 - 266	1029	His-1 to Ser-8, Thr-68 to Lys-76.	AR089: 9, AR061: 7			
120	HPTVL90	509487	130	2 - 211	1030	Pro-48 to Ile-54.	AR061: 1, AR089: 0 L0803: 6, L0748: 5, L0749: 4, H0424: 3, L0804: 3, L0774: 3, L0779: 3, H0213: 2, S0142: 2, L0789: 2, L0745: 2, L0731: 2, H0294: 1, H0254: 1, H0393: 1, H0549: 1,		

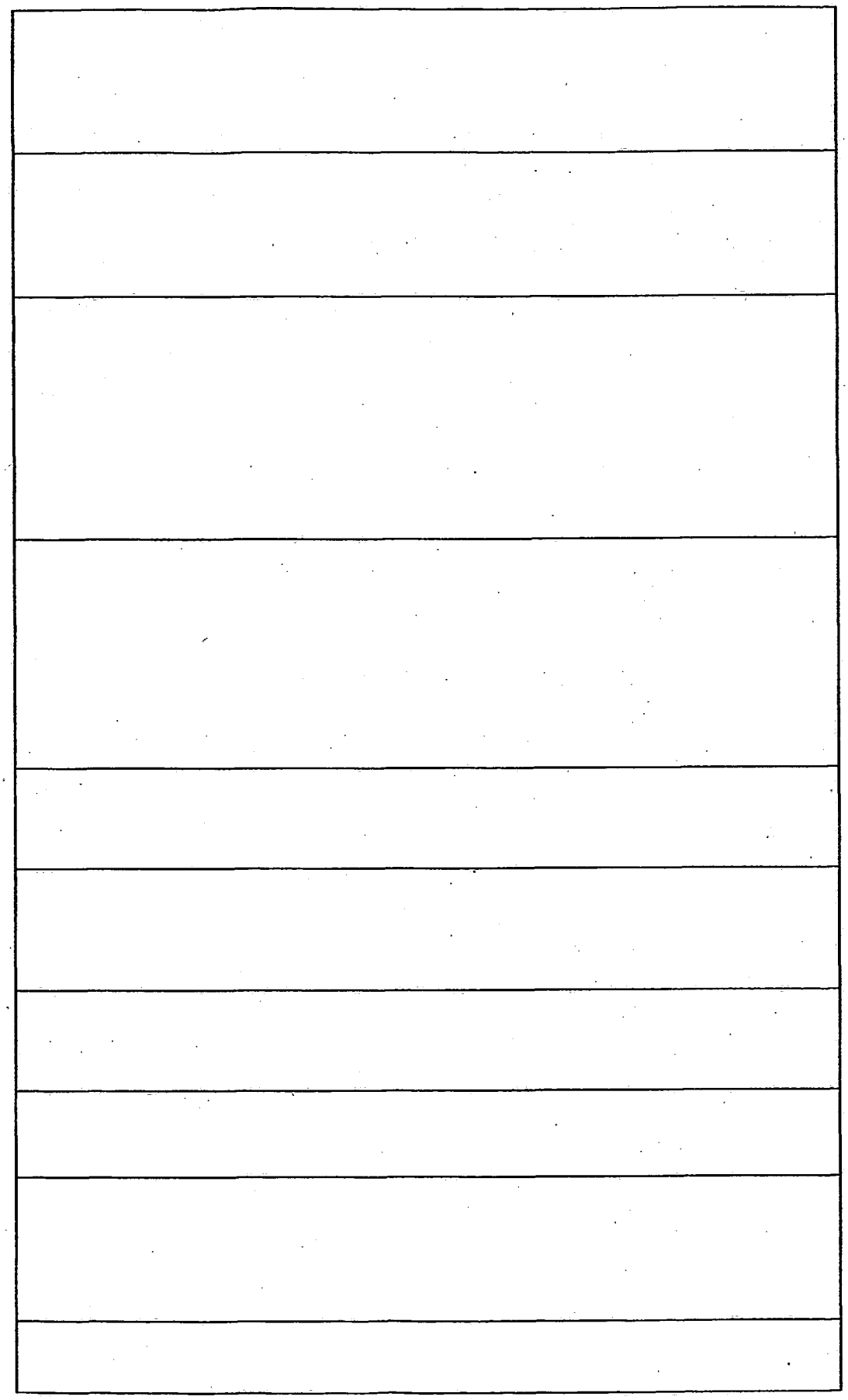
							H0427: 1, H0156: 1, T0082: 1, H0052: 1, H0150: 1, H0024: 1, H0135: 1, H0268: 1, H0100: 1, S0344: 1, L0763: 1, L0769: 1, L0662: 1, L0775: 1, L0805: 1, L0657: 1, L0666: 1, H0144: 1, L0740: 1, L0750: 1 and L0755: 1.		
121	HSKIA89	837986	131	296 - 634	1031		AR089: 8, AR061: 2 L0471: 1, S0150: 1, H0435: 1, H0539: 1 and S3014: 1.		
122	HTXGF27	695766	132	1 - 1011	1032	Gly-1 to Gly-6, Ser-16 to Ala-23, Thr-114 to Lys-120, Thr-274 to Ser-280, Arg-327 to Ser-337.	AR061: 3, AR089: 3 L0769: 5, L0752: 5, S0358: 4, H0448: 4, L0754: 4, H0052: 3, L0773: 3, L0666: 3, L0740: 3, L0750: 3, L0596: 3, H0370: 2, H0024: 2, H0083: 2, H0031: 2, H0090: 2, S0142: 2, L0766: 2, L0663: 2, L0747: 2, L0753: 2, L0588: 2, L0599: 2, H0265: 1, S0040: 1, H0583: 1, H0656: 1, S0442: 1,		

						H0393: 1, H0431: 1, L0622: 1, H0635: 1, S0280: 1, L0021: 1, H0002: 1, H0036: 1, H0421: 1, H0204: 1, H0046: 1, H0014: 1, H0015: 1, S6028: 1, H0266: 1, H0169: 1, S0366: 1, H0040: 1, H0264: 1, S0038: 1, H0494: 1, L0772: 1, L0372: 1, L0374: 1, L0644: 1, L0765: 1, L0771: 1, L0364: 1, L0806: 1, L0659: 1, L0783: 1, L0647: 1, L0665: 1, H0435: 1, H0658: 1, H0214: 1, L0751: 1, L0731: 1, L0758: 1, L0759: 1, H0653: 1, L0462: 1 and H0352: 1.		
123	HWHHW54	684125	133	853 - 1146	1033	Pro-50 to Gly-69, Pro-71 to Lys-80.	AR089: 3, AR061: 1 L0748: 6, L0747: 2, H0170: 1, H0586: 1, S0051: 1, H0163: 1, L0665: 1, H0670: 1, H0660: 1 and H0423: 1.			
124	HWHPO29	857383	134	236 - 670	1034		AR061: 2, AR089: 1 H0586: 2, L0803: 2,			

							L0439: 2, H0592: 1, H0587: 1, L0021: 1, L0456: 1, H0494: 1, S0448: 1, L0662: 1 and L0774: 1.		
							AR089: 18, AR061: 3 L0766: 4, L0666: 3, S0278: 2, L0758: 2, S0358: 1, S0376: 1, S0010: 1, H0050: 1, S0003: 1, H0038: 1, H0616: 1, H0264: 1, H0100: 1, S0448: 1, S0344: 1, S0002: 1, S0426: 1, L0642: 1, L0659: 1, S0374: 1, H0521: 1 and : 1.		
						1035	Thr-29 to Gly-34, Glu-53 to Leu-58, Thr-66 to Thr-74.		
					184 - 459				
				135					
			967326						
		HWLPR94							
	125								







126	HWLUL28	925331	136	1 - 750	1036	Arg-11 to Pro-19, Pro-36 to Asp-44, Lys-183 to Gly-189, Thr-201 to Arg-207.	AR089: 16, AR061: 9 L0439: 3, S0360: 2, H0615: 2, L0770: 2, L0666: 2, L0438: 2, L0749: 2, L0758: 2, L0596: 2, H0294: 1, H0351: 1, S0222: 1, H0441: 1, H0611: 1, H0599: 1, H0251: 1, H0046: 1, H0567: 1, H0081: 1, H0083: 1, H0213: 1, H0617: 1, L0055: 1, H0494: 1, H0560: 1, L0769: 1, L0761: 1, L0766: 1, L0649: 1, L0774: 1, L0775: 1, L0375: 1, L0805: 1, L0657: 1, L0526: 1, L0789: 1, L0665: 1, H0519: 1, H0658: 1, S0380: 1, L0748: 1, L0786: 1, L0777: 1, L0731: 1 and H0543: 1.	16p13.3	141750, 141800, 141800, 141800, 141800, 141850, 141850, 141850, 141850, 141850, 156850, 186580, 191092, 600140, 600273, 601313, 601785
127	HWLXT48	957630	137	55 - 363	1037		AR089: 12, AR061: 9 S0360: 2, H0550: 2, S0028: 2, H0543: 2, H0663: 1, H0638: 1, S0376: 1, H0580: 1, S0045: 1, H0393: 1,			

							H0370: 1, H0392: 1, H0156: 1, H0618: 1, H0318: 1, H0135: 1, T0042: 1, H0366: 1, S0002: 1, L0803: 1, L0791: 1, S0126: 1, S0037: 1, S0027: 1, S0032: 1, L0741: 1, L0754: 1, H0445: 1, L0596: 1, S0026: 1 and H0542: 1.		
128	HBGMD15	1103922	138	1 - 567	1038	Gly-1 to Ser-6.	AR089: 0, AR061: 0 H0617: 4 and S0028: 1.		
		786307	706	3 - 323	1606	His-53 to Arg-61.			
129	HNGMA91	789744	139	7 - 327	1039	His-8 to Gly-18.	AR089: 1, AR061: 0		
130	HSLEI57	1103672	140	2 - 640	1040		AR089: 1, AR061: 0 S0044: 1 and S0028: 1.		
		730927	707	2 - 433	1607	Gly-23 to Gly-28, Arg-73 to Asn-78.			
131	HSLFE21	1103524	141	2 - 1012	1041	Pro-52 to Ala-57, Tyr-110 to Lys-122.	AR061: 1, AR089: 1 H0246: 4, S0028: 3, H0197: 2, S0282: 1, H0199: 1 and S3020: 1.		
		823083	708	122 - 658	1608				
132	HSLIE40	1105422	142	510 - 1	1042		AR061: 5, AR089: 2 H0294: 1, S0044: 1 and S0028: 1.		
		866274	709	65 - 283	1609	His-49 to Lys-54.			
133	HTXHA35	1152110	143	291 - 839	1043	Gln-130 to Asp-135,	AR061: 6, AR089: 3		

							Asp-167 to Leu-178.	H0124: 2, H0135: 2, H0265: 1, S0134: 1, H0657: 1, S0280: 1, H0122: 1, H0618: 1, H0251: 1, H0090: 1, H0646: 1, H0144: 1, L0743: 1 and L0748: 1.		
		633682	710	247 - 501	1610		Gly-75 to Cys-83.			
134	HAICS07	1105538	144	157 - 810	1044			AR089: 6, AR061: 6 S0132: 1, H0038: 1 and L0439: 1.		
		953351	711	157 - 810	1611		Met-104 to His-110, Arg-202 to Pro-214.			
135	HBKDN33	1167313	145	2 - 1015	1045		Ser-28 to Pro-34, Pro-134 to Ser-139, Gln-178 to Gly-183, Thr-193 to Gly-198, His-244 to Gly-257, Asp-263 to Tyr-273.	AR089: 1, AR061: 0 L0439: 2, H0506: 2, S0354: 1, S0358: 1, S0280: 1, H0622: 1, S0366: 1, H0059: 1, S0344: 1, H0658: 1, H0539: 1, H0521: 1, H0522: 1, H0555: 1, L0748: 1, L0751: 1, L0753: 1 and L0596: 1.		
		922414	712	2 - 1237	1612		Ser-28 to Pro-34, Pro-134 to Ser-139, Gln-178 to Gly-183, Thr-193 to Gly-198, His-244 to Gly-257, Asp-263 to Tyr-273, Lys-337 to Arg-347,			

136	HBODH62	1228278	146	293 - 1729	1046	Pro-366 to Lys-372, Ala-382 to Asp-387.	Gln-10 to Gly-15, Lys-193 to Ser-199, Asp-323 to Tyr-332, Leu-425 to Gly-431, Lys-470 to Ala-477.	AR089: 0, AR061: 0 H0046: 5, L0769: 5, L0755: 4, L0758: 4, H0581: 3, L0803: 3, L0774: 3, L0600: 3, L0427: 2, S0358: 2, H0253: 2, H0252: 2, H0553: 2, H0087: 2, S0038: 2, L0517: 2, L0438: 2, L0748: 2, L0756: 2, L0777: 2, H0170: 1, H0265: 1, H0650: 1, H0657: 1, S0116: 1, S0442: 1, S0354: 1, H0370: 1, H0486: 1, H0013: 1, H0349: 1, H0706: 1, H0618: 1, H0327: 1, H0373: 1, H0428: 1, S0364: 1, H0124: 1, H0100: 1, L0770: 1, L0637: 1, L0761: 1, L0372: 1, L0800: 1, L0641: 1, L0768: 1, L0794: 1, L0766: 1, L0657: 1, L0635: 1, L0542: 1, L0809: 1, L0789: 1, L0666: 1,

								L0665: 1, H0144: 1, H0682: 1, H0651: 1, S0380: 1, H0555: 1, L0439: 1, L0750: 1, L0780: 1, L0759: 1, L0366: 1, H0543: 1 and H0506: 1.		
		742827	713	3 - 290	1613					
137	HCEPJ44	1157810	147	2 - 571	1047	Gln-1 to Asp-8, Lys-142 to Asp-160.		AR089: 6, AR061: 4 S0420: 1, H0052: 1, H0024: 1, H0649: 1, H0689: 1 and H0435: 1.		
		930790	714	3 - 536	1614	Lys-130 to Asp-148.				
138	HCWCM65	1105668	148	3 - 659	1048	Ser-44 to His-57.		AR089: 3, AR061: 1 H0305: 2 and H0589: 1.		
		529230	715	1 - 360	1615	Ser-45 to His-58.				
139	HDQDY52	1182322	149	43 - 597	1049	His-68 to Gly-73, Glu-81 to Glu-87.		AR089: 25, AR061: 24 H0521: 2, H0580: 1, H0393: 1, H0052: 1, H0081: 1, L0774: 1 and S0152: 1.		
		852622	716	43 - 597	1616	His-68 to Gly-73, Glu-81 to Glu-87.				
140	HEEAA32	1203140	150	499 - 1236	1050	Arg-19 to Gln-28, Glu-35 to Ser-40, Gly-60 to Tyr-66.		AR061: 9, AR054: 6, AR089: 3, AR050: 1, AR051: 1 H0574: 2, H0510: 2, H0549: 1, H0331: 1, S0010: 1 and L0775: 1.		

		887490	717	3 - 407	1617	Leu-8 to Lys-14, Asp-53 to Gly-58, Met-76 to Asp-82.				
141	HEGAN70	839719	151	1 - 684	1051	Asn-1 to Thr-7.	AR089: 2, AR061: 2 H0620: 2, H0550: 1, H0529: 1, L0775: 1, S0390: 1 and H0665: 1.			
142	HFKMF42	1104119	152	56 - 1117	1052		AR061: 12, AR089: 6 L0766: 4, H0617: 3, H0135: 3, L0769: 2, L0438: 2, H0265: 1, S0282: 1, H0662: 1, S0358: 1, S0360: 1, S0045: 1, H0431: 1, L0586: 1, H0575: 1, H0620: 1, S0048: 1, H0428: 1, S0366: 1, H0509: 1, L0763: 1, L0796: 1, L0764: 1, L0774: 1, L0805: 1, L0776: 1, L0783: 1, L0789: 1, L0664: 1, L0665: 1, L0565: 1, L0758: 1 and S0424: 1.			
		923824	718	56 - 1117	1618					
143	HFPHG06	1104964	153	111 - 449	1053	Gln-31 to Pro-46.	AR089: 0, AR061: 0 S0222: 2			
		933802	719	2 - 265	1619					
144	HHEMB89	1227613	154	3 - 1994	1054	Val-94 to Glu-99, Arg-107 to Thr-112,	AR089: 4, AR061: 1 H0046: 5, L0769: 5,			

Lys-378 to Ser-384.						L0755: 4, L0758: 4, H0581: 3, L0803: 3, L0774: 3, L0600: 3, L0427: 2, S0358: 2, H0253: 2, H0252: 2, H0553: 2, H0087: 2, S0038: 2, L0517: 2, L0438: 2, L0748: 2, L0756: 2, L0777: 2, H0170: 1, H0265: 1, H0650: 1, H0657: 1, S0116: 1, S0442: 1, S0354: 1, H0370: 1, H0486: 1, H0013: 1, H0349: 1, H0706: 1, H0618: 1, H0327: 1, H0373: 1, H0428: 1, S0364: 1, H0124: 1, H0100: 1, L0770: 1, L0637: 1, L0761: 1, L0372: 1, L0800: 1, L0641: 1, L0768: 1, L0794: 1, L0766: 1, L0657: 1, L0635: 1, L0542: 1, L0809: 1, L0789: 1, L0666: 1, L0665: 1, H0144: 1, H0682: 1, H0651: 1, S0380: 1, H0555: 1, L0439: 1, L0750: 1, L0780: 1, L0759: 1,

							L0366: 1, H0543: 1 and H0506: 1.		
		574897	720	1 - 465	1620				
145	HLDPC46	466567	155	2 - 595	1055	Leu-1 to Glu-6, Arg-10 to Gln-19.	AR061: 2, AR089: 1 H0574: 2, H0510: 2, H0549: 1, H0331: 1, S0010: 1 and L0775: 1.		
146	HLDRG44	1106225	156	1 - 1026	1056	Gln-1 to Cys-12.	AR061: 13, AR089: 0 L0803: 10, L0774: 9, L0775: 6, L0651: 4, L0581: 4, H0510: 2, H0632: 1, H0156: 1, L0021: 1, H0015: 1, H0388: 1, H0509: 1, L0375: 1, L0790: 1, L0748: 1 and L0749: 1.		
		969544	721	2 - 946	1621	Asp-60 to Lys-65.			
147	HLICR73	1107517	157	3 - 539	1057	Asp-49 to Gly-55, Pro-73 to Thr-80, Thr-98 to Phe-103.	AR061: 9, AR089: 2 H0510: 3, L0393: 1, H0355: 1 and L0581: 1.		
		837030	722	1 - 444	1622	Asp-41 to Gly-47, Pro-65 to Thr-72, Thr-90 to Phe-95.			
148	HNHOP64	1103943	158	524 - 3	1058	Pro-51 to Phe-58.	AR089: 22, AR061: 7 H0483: 1, H0052: 1, H0553: 1 and S0216: 1.		
		966754	723	365 - 889	1623				
149	HSDEF56	1128288	159	1 - 744	1059		AR061: 0, AR089: 0 H0171: 1, T0042: 1 and S0031: 1.		

		496551	724	2 - 490	1624	Pro-74 to Lys-84, Gln-107 to Trp-113.			
150	HTENI29	1105518	160	3 - 1172	1060	Asp-1 to Arg-7, Lys-88 to Glu-93, Glu-149 to Cys-156, Tyr-212 to Trp-228, Ala-305 to Glu-311, Leu-367 to Arg-375.	AR061: 5, AR089: 3 L0748: 6, L0749: 6, L0758: 6, L0439: 5, L0794: 4, L0805: 3, L0438: 3, S0116: 2, H0574: 1, N0006: 1, H0616: 1, L0515: 1, L0809: 1, L0756: 1 and L0753: 1.		
		954519	725	3 - 1172	1625	Asp-1 to Arg-7.			
151	HWMKD72	1106729	161	2 - 652	1061	Thr-95 to Gly-106, Pro-188 to Ser-193.	AR089: 2, AR061: 1 L0803: 12, S0358: 2, L0748: 2, H0643: 1, H0494: 1, L0065: 1, L0800: 1, L0774: 1, L0657: 1, S0152: 1 and L0755: 1.		
		970613	726	2 - 652	1626	Thr-95 to Gly-106, Pro-188 to Ser-193.			
152	HAPSQ21	972037	162	1 - 864	1062	Gly-48 to Glu-54, Pro-107 to His-112, His-122 to Ala-128, Arg-225 to Gly-232.	AR061: 2, AR089: 2 H0575: 6, H0042: 2, H0024: 2, L0774: 2, L0750: 2, L0599: 2, H0549: 1, H0375: 1, H0647: 1, H0646: 1, L0806: 1, L0791: 1 and L0779: 1.		
153	HLJDW02	1192885	163	617 - 3	1063	Arg-57 to Gln-76,	AR061: 2, AR089: 1		

						Glu-86 to Cys-98, Pro-112 to Cys-122, Ser-132 to Gly-143.	H0549: 1, H0575: 1, H0375: 1, H0647: 1, L0774: 1 and L0779: 1.		
		837592	727	2 - 517	1627				
154	HMGBT01	1205666	164	3 - 1163	1064	Asp-1 to Gln-9, Leu-45 to Lys-62, Thr-69 to Glu-74, Pro-189 to Trp-194, Ile-205 to Leu-210, Tyr-217 to Ser-222, Ser-249 to Asp-256, Thr-311 to Tyr-317, Arg-344 to Ile-349.	AR050: 12, AR054: 10, AR051: 2, AR089: 2, AR061: 0 L0439: 23, L0748: 18, L0438: 17, L0749: 10, L0794: 7, L0805: 6, L0740: 6, L0777: 6, H0013: 5, H0052: 5, L0770: 5, L0731: 5, L0803: 4, L0754: 4, L0750: 4, L0779: 4, L0752: 4, S0040: 3, H0551: 3, H0494: 3, H0538: 3, L0776: 3, L0809: 3, S0126: 3, S0378: 3, L0742: 3, L0747: 3, L0755: 3, S0222: 2, S0010: 2, H0327: 2, H0545: 2, H0266: 2, L0351: 2, L0800: 2, L0768: 2, L0774: 2, L0806: 2, L0665: 2, S0028: 2, L0744: 2, L0745: 2, L0756: 2, L0753: 2, L0757: 2, L0758: 2,		

							L0759: 2, S0031: 2, S0260: 2, L0592: 2, H0171: 1, S6024: 1, H0650: 1, H0381: 1, S0001: 1, H0580: 1, H0393: 1, S0300: 1, S6016: 1, H0333: 1, H0270: 1, H0156: 1, H0599: 1, H0251: 1, H0050: 1, L0471: 1, H0620: 1, H0051: 1, H0267: 1, H0284: 1, H0628: 1, S0036: 1, H0135: 1, H0591: 1, H0264: 1, H0268: 1, H0412: 1, S0038: 1, S0112: 1, S0002: 1, L0598: 1, L0520: 1, L0764: 1, L0767: 1, L0804: 1, L0775: 1, L0651: 1, L0515: 1, L0783: 1, L0787: 1, L0788: 1, L0790: 1, H0693: 1, L0352: 1, H0648: 1, H0521: 1, H0696: 1, S0027: 1, L0741: 1, L0743: 1, L0751: 1, L0780: 1, H0445: 1, L0596: 1, L0581: 1, H0653: 1, S0192: 1, H0506: 1 and		

		879904	728	3 - 395	1628						
155	HSSJJ24	1178041	165	2 - 1171	1065	Leu-6 to Gln-12, Leu-48 to Lys-65, Thr-72 to Glu-77, Pro-192 to Trp-197, Ile-208 to Leu-213, Tyr-220 to Ser-225, Ser-252 to Asp-259, Thr-314 to Tyr-320, Arg-347 to Ile-352.	H0352: 1.	AR061: 4, AR089: 0 L0439: 23, L0748: 18, L0438: 17, L0749: 10, L0794: 7, L0805: 6, L0740: 6, L0777: 6, H0013: 5, H0052: 5, L0770: 5, L0731: 5, L0803: 4, L0754: 4, L0750: 4, L0779: 4, L0752: 4, S0040: 3, H0551: 3, H0494: 3, H0538: 3, L0776: 3, L0809: 3, S0126: 3, S0378: 3, L0742: 3, L0747: 3, L0755: 3, S0222: 2, S0010: 2, H0327: 2, H0545: 2, H0266: 2, L0351: 2, L0800: 2, L0768: 2, L0774: 2, L0806: 2, L0665: 2, S0028: 2, L0744: 2, L0745: 2, L0756: 2, L0753: 2, L0757: 2, L0758: 2, L0759: 2, S0031: 2, S0260: 2, L0592: 2, H0171: 1, S6024: 1, H0650: 1, H0381: 1,		

		905092	729	3 - 188	1629	Asp-1 to Gln-9.	S0001: 1, H0580: 1, H0393: 1, S0300: 1, S6016: 1, H0333: 1, H0270: 1, H0156: 1, H0599: 1, H0251: 1, H0050: 1, L0471: 1, H0620: 1, H0051: 1, H0267: 1, H0284: 1, H0628: 1, S0036: 1, H0135: 1, H0591: 1, H0264: 1, H0268: 1, H0412: 1, S0038: 1, S0112: 1, S0002: 1, L0598: 1, L0520: 1, L0764: 1, L0767: 1, L0804: 1, L0775: 1, L0651: 1, L0515: 1, L0783: 1, L0787: 1, L0788: 1, L0790: 1, H0693: 1, L0352: 1, H0648: 1, H0521: 1, H0696: 1, S0027: 1, L0741: 1, L0743: 1, L0751: 1, L0780: 1, H0445: 1, L0596: 1, L0581: 1, H0653: 1, S0192: 1, H0506: 1 and H0352: 1.		
156	HFTCG46	669383	166	54 - 371	1066	Cys-33 to Tyr-39.	AR061: 3, AR089: 1	Xp21.1	301220,

157	HNTMD81	929511	167	1 - 492	1067	Ala-8 to Gly-14, His-44 to Ser-50, Tyr-70 to Thr-75, Ser-98 to Pro-113, Arg-119 to Phe-124, Ser-137 to Glu-154.	L0777: 2, H0123: 1 and L0747: 1.	302350, 306400, 309470, 309585, 311250, 312040, 312610, 314850
							AR089: 5, AR061: 3 L0809: 1 and H0520: 1.	1q21	104770, 107670, 110700, 135940, 145001, 146790, 152445, 152445, 159001, 174000, 179755, 182860, 182860, 182860, 191315, 230800, 230800, 266200, 600897, 601105, 601412, 601652,

									602491
158	HBSAJ60	1174334	168	2 - 1075	1068	Gly-24 to Lys-36.	AR089: 1, AR061: 1 S0028: 5, S0050: 3, L0591: 3, H0381: 2, H0623: 2, S0031: 2, S6024: 1, H0255: 1, H0305: 1, S0045: 1, S0278: 1, H0013: 1, S0280: 1, L0105: 1, H0271: 1, H0687: 1, H0634: 1, S0142: 1, S0126: 1, S0152: 1 and S0027: 1.		
		573965	730	2 - 265	1630				
159	HSKCI43	506599	169	1 - 348	1069	Ala-6 to Tyr-11, Gly-21 to Lys-33, Pro-54 to Trp-61, Ala-69 to Ile-75.	AR089: 2, AR061: 1 S0028: 5, S0050: 3, L0591: 3, H0381: 2, H0623: 2, S0031: 2, S6024: 1, H0255: 1, H0305: 1, S0045: 1, S0278: 1, H0013: 1, S0280: 1, L0105: 1, H0271: 1, H0687: 1, H0634: 1, S0142: 1, S0126: 1, S0152: 1 and S0027: 1.		
160	HSDKE47	1128095	170	353 - 3	1070		AR089: 15, AR061: 6 S0260: 1 and L0581: 1.		
		764970	731	1 - 297	1631	Asn-42 to Gly-47, Lys-55 to Ala-62.			

161	HCWTB56	1172460	171	400 - 2	1071	Leu-4 to Pro-10, Ser-15 to Ser-20.	AR061: 5, AR089: 4 H0305: 2 and H0589: 1.		
		853009	732	2 - 346	1632				
162	HFPBS73	1144027	172	370 - 1149	1072	Ala-72 to Asn-79, Asp-206 to Gly-211.	AR061: 7, AR089: 2 S0045: 2, S0028: 2, S0046: 1, S0222: 1, L0477: 1, H0042: 1, S3012: 1 and S0031: 1.		
		954892	733	3 - 590	1633	Ala-64 to Asn-71.			
163	HOEDD44	954893	173	44 - 583	1073		AR061: 1, AR089: 1 H0254: 2, H0255: 1, H0617: 1 and S0126: 1.		
164	HSUAN33	956315	174	1617 - 190	1074	Pro-28 to Lys-33, Pro-111 to Gln-116, Phe-161 to Ser-167, Pro-289 to Phe-301, Ser-305 to Asp-314.	AR061: 982, AR089: 580 L0527: 2, H0208: 1, H0635: 1, S0250: 1, H0622: 1, H0551: 1, L0766: 1, H0519: 1, H0521: 1, S0027: 1 and H0136: 1.		
165	HBCMD49	1206021	175	1 - 366	1075	Glu-47 to Thr-52.	AR061: 1, AR089: 0 L0774: 3, H0068: 2, L0622: 1, H0119: 1, H0509: 1, L0775: 1, L0776: 1, L0666: 1, S0028: 1, L0758: 1, S0260: 1 and S0396: 1.		
		865314	734	2 - 619	1634	Arg-1 to Leu-6, Pro-47 to Arg-52.			

166	HKABN12	956826	176	900 - 478	1076		AR089: 12, AR061: 6		
167	HMOAC31	1228291	177	1156 - 2640	1077	His-40 to Asn-46, Ser-101 to Lys-107, Ile-179 to Arg-184, Trp-223 to Cys-230, Phe-300 to Phe-306, Lys-353 to Gly-360, Leu-477 to Arg-490.	AR089: 1, AR061: 1 H0624: 2, S0001: 2, L0005: 1, S0045: 1, H0619: 1, H0191: 1, L0105: 1, H0165: 1, S0144: 1, S0428: 1 and S0031: 1.		
		920386	735	2 - 523	1635				
168	HMVBQ92	1204710	178	1686 - 2108	1078	Gly-21 to Pro-27, Gln-62 to Asp-67, Asn-117 to Leu-124, Arg-131 to Phe-138.	AR089: 22, AR061: 9 L0748: 13, H0457: 9, L0751: 7, L0665: 6, L0766: 5, L0758: 5, S0358: 4, L0774: 4, H0144: 4, L0749: 4, L0777: 4, H0014: 3, L0662: 3, L0775: 3, L0776: 3, L0743: 3, L0747: 3, L0581: 3, L0600: 3, H0052: 2, L0640: 2, L0659: 2, L0526: 2, L0809: 2, S0126: 2, H0696: 2, L0439: 2, L0746: 2, L0750: 2, L0753: 2, H0295: 1, S0134: 1, S0212: 1, S0376: 1, S0045: 1, H0619: 1, H0261: 1, H0550: 1,		

		791284	736	2 - 295	1636		H0333: 1, H0331: 1, H0486: 1, H0427: 1, H0575: 1, H0085: 1, H0204: 1, H0046: 1, H0012: 1, H0057: 1, S0051: 1, H0510: 1, H0188: 1, H0687: 1, H0169: 1, H0090: 1, H0591: 1, T0067: 1, H0488: 1, L0374: 1, L0648: 1, L0551: 1, L0376: 1, L0807: 1, L0790: 1, L0791: 1, L0666: 1, H0547: 1, H0519: 1, H0660: 1, H0672: 1, H0539: 1, H0555: 1, H0436: 1, S0028: 1, L0752: 1, L0755: 1, L0759: 1 and S0192: 1.		
169	HOELA62	1228151	179	1670 - 2092	1079	Gly-21 to Pro-27, Gln-62 to Asp-67, Asn-117 to Leu-124.	AR061: 7, AR089: 5 L0748: 13, H0457: 9, L0751: 7, L0665: 6, L0766: 5, L0758: 5, S0358: 4, L0774: 4, H0144: 4, L0749: 4, L0777: 4, H0014: 3, L0662: 3, L0775: 3, L0776: 3, L0743: 3,		

L0747: 3, L0581: 3,
L0600: 3, H0052: 2,
L0640: 2, L0659: 2,
L0526: 2, L0809: 2,
S0126: 2, H0696: 2,
L0439: 2, L0746: 2,
L0750: 2, L0753: 2,
H0295: 1, S0134: 1,
S0212: 1, S0376: 1,
S0045: 1, H0619: 1,
H0261: 1, H0550: 1,
H0333: 1, H0331: 1,
H0486: 1, H0427: 1,
H0575: 1, H0085: 1,
H0204: 1, H0046: 1,
H0012: 1, H0057: 1,
S0051: 1, H0510: 1,
H0188: 1, H0687: 1,
H0169: 1, H0090: 1,
H0591: 1, T0067: 1,
H0488: 1, L0374: 1,
L0648: 1, L0551: 1,
L0376: 1, L0807: 1,
L0790: 1, L0791: 1,
L0666: 1, H0547: 1,
H0519: 1, H0660: 1,
H0672: 1, H0539: 1,
H0555: 1, H0436: 1,
S0028: 1, L0752: 1,
L0755: 1, L0759: 1 and
S0192: 1.

		863712	737	1440 - 1943	1637	Ser-1 to Arg-13, Glu-32 to Ser-39.			
170	HSSGE35	1228152	180	1 - 516	1080	His-5 to Thr-13, Leu-26 to Ser-33, Gln-93 to Asp-98, Asn-148 to Leu-155, Arg-162 to Phe-169.	AR089: 15, AR061: 13 T0006: 1 and H0135: 1.		
		967832	738	1 - 396	1638	Ser-3 to Ser-11.			
171	HEMFJ74	1216651	181	52 - 1368	1081	Glu-11 to Ala-41, Pro-59 to Glu-64, Gly-90 to Arg-98, Glu-115 to Ser-121, Ser-150 to Gly-158, Phe-186 to Thr-192, Asp-204 to Glu-209, Ser-256 to Ser-261, Thr-283 to Asp-289, Val-341 to Ala-352, Asp-405 to Trp-422.	AR089: 16, AR061: 2 H0519: 2, S0040: 1, S0046: 1, H0455: 1, H0427: 1, H0599: 1, H0052: 1, H0038: 1, H0551: 1, H0269: 1, S0126: 1, H0689: 1, H0539: 1 and L0750: 1.		
		523350	739	1 - 348	1639	Gly-1 to Cys-39.			
172	HISCL24	676997	182	3 - 452	1082	Phe-10 to Thr-16, Asp-28 to Glu-33.	AR089: 0, AR061: 0 H0519: 2, S0040: 1, S0046: 1, H0455: 1, H0427: 1, H0599: 1, H0052: 1, H0038: 1, H0551: 1, H0269: 1, S0126: 1, H0689: 1, H0539: 1 and L0750: 1.	5q34-q35	109690, 109690, 123101, 164040, 180071, 208100, 246530, 600584
173	H7PBB83	1228150	183	1 - 1110	1083		AR061: 1, AR089: 0 S0252: 5, S0268: 5,		

								S0256: 4, S0228: 3, S0270: 3, S0258: 2, H0305: 2, L0717: 2, H0090: 2, H0521: 2, L0740: 2, L0777: 2, H0445: 2, H0657: 1, S0212: 1, H0580: 1, H0438: 1, H0486: 1, T0074: 1, H0581: 1, S0388: 1, H0266: 1, H0412: 1, L0637: 1, L0766: 1, S0053: 1, S0380: 1, L0755: 1, L0605: 1, L0592: 1, L0581: 1, L0593: 1, H0543: 1 and H0423: 1.		
		908235	740	756 - 301	1640	Glu-87 to Thr-94.				
174	HAGBA63	1122199	184	1121 - 66	1084	Ser-13 to Leu-22, Phe-40 to Lys-45.		AR061: 4, AR089: 2 L0742: 3, S0010: 2, H0650: 1, S6026: 1, H0068: 1, L0794: 1 and L0809: 1.		
		509775	741	2 - 361	1641	Ser-13 to Leu-22, Phe-40 to Lys-45.				
175	HBMUG47	1102698	185	3 - 551	1085	Arg-1 to Lys-9.		AR089: 11, AR061: 11 L0665: 3, S0116: 1 and H0597: 1.		
		863846	742	1 - 315	1642	Gln-59 to Ser-71.				
176	HCRPZ84	1130816	186	3 - 1676	1086	Ser-8 to Gln-14, Asp-52 to Pro-63,		AR061: 2, AR089: 1 H0662: 2, S0003: 2,		

						Lys-172 to Lys-183, Thr-204 to Glu-210, Thr-227 to Ile-239, Ala-251 to Lys-258, Pro-276 to Glu-286, Glu-293 to Glu-304, Asn-338 to Lys-343, Asp-350 to Lys-372, Leu-374 to Asp-380, Leu-397 to Arg-412, Tyr-419 to Ala-426, Ser-467 to Lys-479.	S0152: 2, L0356: 2, S0356: 1, S0354: 1, S0360: 1, H0013: 1, H0581: 1, H0090: 1, H0641: 1, H0435: 1, H0648: 1, H0518: 1, H0479: 1, L0731: 1, S0031: 1 and H0542: 1.	
		965476	743	2 - 1252	1643	Lys-31 to Lys-42, Thr-63 to Glu-69, Thr-86 to Ile-98, Ala-110 to Lys-117, Pro-135 to Glu-145, Glu-152 to Glu-163, Asn-197 to Lys-202, Asp-209 to Lys-231, Leu-233 to Asp-239, Leu-256 to Arg-271, Tyr-278 to Ala-285, Ser-326 to Lys-338.			
177	HCWTR54	1192287	187	39 - 311	1087	Ser-37 to Gly-44, Ile-46 to Glu-60.	AR089: 6, AR061: 2 H0589: 2		
		729290	744	49 - 240	1644	Ser-37 to Gly-44.			
178	HDPBB41	1195686	188	2480 - 564	1088	Pro-6 to Cys-12, Val-15 to Gly-28, Arg-45 to Pro-53.	AR089: 18, AR061: 6 L0803: 5, H0640: 2, H0373: 2, H0040: 2,		

H0412: 2, S0422: 2, L0794: 2, L0804: 2, L0655: 2, H0547: 2, L0748: 2, L0777: 2, L0759: 2, H0543: 2, H0624: 1, S0116: 1, H0341: 1, S0418: 1, S0356: 1, S0358: 1, S0360: 1, H0329: 1, L0717: 1, T0039: 1, H0013: 1, H0427: 1, H0156: 1, L0021: 1, S0182: 1, H0263: 1, H0039: 1, T0086: 1, H0628: 1, H0591: 1, H0487: 1, H0102: 1, T0041: 1, T0042: 1, H0494: 1, S0142: 1, S0002: 1, L0662: 1, L0364: 1, L0774: 1, L0805: 1, L0809: 1, L0663: 1, H0144: 1, H0702: 1, H0519: 1, H0682: 1, H0684: 1, H0659: 1, H0660: 1, H0521: 1, H0696: 1, H0555: 1, L0751: 1, L0749: 1, L0758: 1, L0593: 1, H0668: 1 and H0667: 1.

		925800	745	2 - 667	1645	Asp-37 to Ile-44, Asp-47 to Thr-52, Pro-80 to Asp-85, Ala-90 to Tyr-101, Asp-138 to Glu-146, Ser-154 to Phe-161, Asn-172 to Gln-178, Gln-185 to Glu-190, Asn-205 to Ser-215.			
179	HEOPI32	907903	189	2 - 640	1089	Phe-8 to Asp-18, Pro-71 to Arg-84, Arg-90 to Asp-97, Ser-125 to Leu-133, Ala-137 to Gln-144, Met-181 to Gly-190, Gln-193 to Ile-199.	AR089: 1, AR061: 1 H0457: 5, L0766: 3, L0791: 2, S0420: 1, S0250: 1, L0638: 1, L0803: 1, L0806: 1, H0144: 1, H0547: 1, L0779: 1, L0485: 1 and H0423: 1.		
180	HFSAG03	1151479	190	716 - 360	1090		AR089: 18, AR061: 11 H0057: 1, L0520: 1 and L0389: 1.		
		960973	746	496 - 320	1646	Glu-33 to Thr-45, Arg-50 to Ser-59.			
181	HFXCI24	1182719	191	3 - 680	1091		AR061: 4, AR089: 2 H0361: 3, S0001: 1, S0045: 1, S0278: 1, S0144: 1 and S0053: 1.		
		908374	747	1 - 663	1647	Val-2 to Val-12, Asp-20 to Glu-26, Gln-56 to Gly-61, Gly-69 to Arg-76,			

						Gly-167 to Lys-175, Pro-178 to Gly-205.			
182	HFXHJ89	907938	192	162 - 881	1092	Ile-26 to Arg-44, Ser-85 to Leu-93, Ala-97 to Gln-104, Ile-141 to Gly-149, Asp-172 to Gly-177.	AR061: 4, AR089: 2 H0556: 1, H0650: 1, S0001: 1, S0376: 1, H0574: 1, S0346: 1, H0328: 1, L0649: 1, H0689: 1, H0660: 1, L0752: 1 and H0445: 1.		
183	HHPTC55	1106390	193	2 - 676	1093	Ala-18 to Arg-23, Phe-28 to Asn-33, Arg-79 to Lys-84, Arg-104 to Ser-112, Asn-181 to Thr-188.	AR089: 1, AR061: 1 H0265: 1, H0556: 1, H0477: 1, S0112: 1 and L0794: 1.		
		907951	748	1 - 435	1648	Ala-18 to Arg-23.			
184	HJBBP54	1195070	194	3 - 575	1094		AR061: 193, AR089: 73 H0265: 1, H0050: 1, H0634: 1 and T0042: 1.		
		869621	749	3 - 575	1649				
185	HKAHB56	1162649	195	674 - 1609	1095	Gln-1 to His-6, Pro-9 to Leu-16, Trp-41 to His-47, His-49 to Val-57, Arg-103 to Gln-110, Glu-119 to Lys-125, Gln-173 to Gln-180, Pro-216 to Arg-226, Ile-281 to Ser-287.	AR061: 0, AR089: 0 L0751: 3, L0747: 3, H0662: 2, H0641: 2, L0749: 2, L0758: 2, S0114: 1, H0638: 1, S0046: 1, H0427: 1, H0618: 1, H0424: 1, H0553: 1, H0032: 1, H0494: 1, S0450: 1, L0773: 1, L0804: 1,		

									L0653: 1, L0792: 1, L0666: 1, H0689: 1, H0435: 1, H0660: 1, H0521: 1, L0752: 1, L0755: 1, L0596: 1 and H0542: 1.		
		865298	750	3 - 1346	1650	Pro-57 to Gln-69, Asn-71 to Phe-81.					
186	HLDCI35	1151490	196	66 - 725	1096	Val-39 to Lys-47, Cys-81 to Trp-86, Arg-213 to Gly-218.			AR061: 3, AR089: 1 L0748: 7, L0791: 2, H0597: 1, H0509: 1, L0803: 1, L0804: 1 and L0581: 1.		
		831356	751	66 - 725	1651	Val-39 to Lys-47, Cys-81 to Trp-86.					
187	HMCBU79	1165318	197	1 - 987	1097	Met-59 to Lys-70, Thr-134 to Arg-139, Gly-211 to Tyr-216, Asn-237 to Lys-256, Ser-264 to Asp-271, Ser-290 to Asp-302, Ser-309 to Arg-315, Asp-320 to Phe-325.			AR061: 8, AR089: 4 L0748: 4, H0306: 2, L0766: 2, L0659: 2, L0756: 2, L0758: 2, S0134: 1, S0418: 1, H0632: 1, H0486: 1, T0060: 1, L0021: 1, H0644: 1, T0067: 1, S0142: 1, L0638: 1, L0772: 1, L0800: 1, L0768: 1, L0775: 1, L0375: 1, L0655: 1, L0791: 1, L0663: 1, H0651: 1, S0330: 1, L0749: 1, L0779: 1,		

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		856630	752	1 - 501	1652	Met-62 to Lys-73, Thr-137 to Arg-142.			
188	HNTRV07	1199546	198	913 - 2001	1098	Asn-13 to Ser-19, Ile-43 to Ser-50, Ser-61 to Ile-66, Lys-104 to Asn-111, Lys-116 to Gly-125, Trp-183 to Pro-193, Ser-282 to Asp-294, Ser-330 to Arg-335, Cys-344 to Gln-350.	AR061: 1, AR089: 1 L0803: 5, L0665: 2, L0438: 2, L0758: 2, S0418: 1, L0717: 1, H0586: 1, H0622: 1, H0038: 1, L0662: 1, L0794: 1, L0783: 1, L0790: 1, L0664: 1, H0547: 1, H0519: 1, H0672: 1, H0539: 1, S0152: 1, L0740: 1, L0747: 1, L0777: 1 and S0242: 1.		
		952794	753	1 - 366	1653				
189	HODEX10	1104108	199	237 - 1	1099	Gln-15 to Lys-21, Arg-57 to His-72.	AR061: 6, AR089: 3 H0615: 5		
		926260	754	22 - 159	1654	Met-1 to Arg-6, Ser-16 to Lys-29.			
190	HOGAQ10	1222600	200	65 - 1069	1100		AR089: 1, AR061: 0 S0422: 4, L0750: 4, L0766: 3, L0794: 2, S0242: 2, H0542: 2, H0170: 1, S0116: 1, H0675: 1, H0497: 1, H0486: 1, H0013: 1, H0090: 1, H0040: 1, H0551: 1, L0649: 1,		

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		907911	755	2 - 556	1655		Asp-40 to Gln-60, Phe-99 to Ser-104, Ser-109 to Glu-117, Lys-123 to Lys-137, Asn-175 to Pro-181.				
191	HOSBW20	985056	201	1 - 927	1101		Arg-1 to Pro-10, Glu-50 to Lys-59, Thr-94 to Leu-100, Leu-142 to Lys-148, Glu-171 to Gln-176, Pro-184 to Tyr-189, Asp-261 to Val-270.		AR061: 3, AR089: 2 S0206: 2, L0439: 2, S0222: 1, S0003: 1, H0428: 1, L0766: 1 and L0438: 1.		
		668774	756	1 - 549	1656		Leu-16 to Lys-22, Glu-45 to Gln-50, Pro-58 to Tyr-63, Asp-135 to Val-144.				
192	HRADL60	1151310	202	2765 - 1203	1102		Val-41 to Asp-46, Met-64 to Arg-70, Arg-135 to Lys-146, Tyr-151 to Asn-157, Glu-167 to Ser-172.		AR089: 2, AR061: 1 L0777: 12, L0766: 9, L0803: 5, L0748: 5, L0752: 5, L0758: 5, L0759: 5, L0666: 4, L0794: 3, L0805: 3, L0743: 3, L0747: 3, S0222: 2, H0457: 2, S0003: 2, L0649: 2, L0804: 2, L0809: 2, L0663: 2, L0664: 2,		

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		967578	757	68 - 1630	1657	Val-41 to Asp-46, Met-64 to Arg-70, Arg-135 to Lys-146, Tyr-151 to Asn-157, Glu-167 to Ser-172.				
193	HSGSC29	1150837	203	816 - 310	1103	Val-19 to His-24, Gly-88 to Gly-93, Pro-156 to Arg-169.		AR089: 5, AR061: 5 H0255: 4, H0593: 3, H0620: 2, H0448: 2, H0254: 1, S0358: 1, H0208: 1, H0592: 1 and H0272: 1.		
		953599	758	327 - 749	1658	Leu-13 to Tyr-18, Tyr-108 to Gly-113.				
194	HTEDX38	1106208	204	25 - 1494	1104			AR061: 8, AR089: 5 L0794: 4, L0766: 4, L0758: 4, H0624: 3, H0038: 3, S0007: 2, H0616: 2, L0770: 2, L0803: 2, H0144: 2, L0751: 2, L0747: 2, L0750: 2, H0170: 1, T0049: 1, S0376: 1, S0045: 1, H0553: 1, H0040: 1, T0042: 1, H0646: 1, L0768: 1, L0655: 1, L0787: 1, L0788: 1, L0666: 1, L0665: 1, H0520: 1, S0126: 1, H0435: 1, S0378: 1, L0720: 1,		

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		920697	759	3 - 1436	1659	Gln-124 to Arg-135, Ser-149 to Ser-154, Lys-161 to Ser-176, Ala-184 to Val-204, Pro-207 to His-216, Tyr-270 to Gln-281, Ser-300 to Tyr-327, Gly-330 to Asp-346, Gln-352 to Glu-367, Gly-380 to Ser-397, Gln-401 to Trp-409, Phe-420 to Tyr-435, Ala-453 to Ser-458.				
195	HTEJE15	1102531	205	1 - 405	1105	Arg-38 to Thr-48, Asp-107 to Thr-114, Ser-123 to Asp-135.	AR061: 4, AR089: 1 L0758: 7, L0794: 4, H0038: 2 and L0791: 1.			
		908360	760	2 - 319	1660					
196	HTOES03	1150877	206	2 - 1186	1106	Ala-1 to Ala-8, Ala-11 to Ser-22, Gln-86 to Ala-92, Asp-156 to Leu-167, Arg-169 to Arg-176, Glu-325 to Ala-332, Asp-354 to Leu-360, Ser-387 to Lys-395.	AR089: 1, AR061: 0 L0766: 7, H0561: 2, L0774: 2, L0777: 2, H0052: 1, H0264: 1, H0625: 1, L0761: 1, L0806: 1, L0776: 1, L0790: 1, L0793: 1, L0779: 1 and L0752: 1.			
		955814	761	3 - 1022	1661	Arg-1 to His-8, Gln-27 to Ala-33, Asp-97 to Leu-108,				

197	HTOHS18	1193057	207	3 - 1070	1107	Arg-110 to Arg-117, Glu-266 to Ala-273, Asp-295 to Leu-301, Ser-328 to Ala-340.	AR061: 3, AR089: 1 L0777: 7, H0486: 3, L0659: 3, H0436: 2, L0731: 2, L0758: 2, H0171: 1, S0134: 1, H0657: 1, H0662: 1, L0717: 1, H0592: 1, H0485: 1, H0581: 1, H0264: 1, H0100: 1, H0633: 1, L0763: 1, L0770: 1, L0637: 1, L0772: 1, L0764: 1, L0662: 1, L0805: 1, L0776: 1, L0655: 1, L0783: 1, H0659: 1, L0612: 1, L0749: 1, L0750: 1 and H0352: 1.		
		908347	762	2 - 592	1662	Cys-5 to Gln-11.				
198	HWAAX38	943936	208	3 - 404	1108	Ala-21 to Gln-27.	AR089: 5, AR061: 2 H0423: 6, H0556: 4, H0486: 4, H0271: 4, S0134: 3, H0657: 3, H0125: 3, S0278: 3, H0581: 3, L0768: 3, S0330: 3, H0134: 3, H0436: 3, H0445: 3,			

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199	HMSFN70	1210794	209	1 - 921	1109	Gly-25 to Arg-33, Glu-40 to Thr-55, Asp-125 to Lys-136, Val-174 to Pro-185, Pro-228 to Ala-235, Glu-270 to Gly-275, Pro-299 to Lys-307.	L0779: 1, L0755: 1 and H0136: 1.	AR061: 4, AR089: 3 L0759: 7, L0731: 6, L0769: 4, L0766: 4, L0742: 3, L0751: 3, L0752: 3, H0624: 2, S6026: 2, L0770: 2, L0803: 2, L0774: 2, L0666: 2, H0670: 2, H0521: 2, L0754: 2, L0750: 2, L0777: 2, L0753: 2, L0757: 2, H0171: 1, H0650: 1, H0341: 1, H0675: 1, H0580: 1, H0574: 1, H0013: 1, H0052: 1, H0051: 1, H0083: 1, S6028: 1, S0003: 1, L0483: 1, H0644: 1, H0628: 1, H0038: 1, S0002: 1, L0772: 1, L0764: 1, L0768: 1, L0794: 1, L0806: 1, L0805: 1, L0776: 1, L0807: 1, L0656: 1, L0789: 1, H0689: 1, H0672: 1, H0555: 1, S0027: 1, L0756: 1, L0779: 1, L0755: 1 and		

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200	HUSGB93	1224029	210	363 - 983	1110				AR089: 98, AR061: 8 S0126: 2, H0341: 1, H0412: 1, L0387: 1, L0766: 1, L0379: 1, L0559: 1, S0374: 1 and S0434: 1.		
		923014	764	2 - 520	1664	Arg-1 to Gly-8, Pro-18 to Gly-25, Thr-60 to Leu-67, Gly-107 to Thr-113.					
201	HELHL56	1164004	211	2 - 943	1111	Ser-10 to Ser-16, Lys-226 to Trp-231, Thr-288 to Ser-300.			AR061: 4, AR089: 2 S0426: 3, L0766: 3, S0126: 2, S0282: 1, S0354: 1, S0376: 1, S0045: 1, H0486: 1, H0178: 1, S0003: 1, H0622: 1, H0591: 1, H0040: 1, H0551: 1, H0647: 1, L0761: 1, L0651: 1, S0152: 1, H0521: 1, H0522: 1, S0028: 1, L0754: 1, L0757: 1, L0592: 1 and H0542: 1.		
		578441	765	2 - 307	1665	Ser-10 to Ser-16, Phe-89 to Ser-97.					
202	HOENY85	1191756	212	2 - 1357	1112				AR061: 5, AR089: 2 S0354: 1, S0045: 1,		

		875830	766	2 - 664	1666	Lys-133 to Trp-138, Thr-195 to Gln-206.	H0178: 1, H0622: 1, H0591: 1, H0040: 1, H0647: 1, L0766: 1, S0126: 1, S0152: 1, H0521: 1, S0028: 1, L0754: 1, L0592: 1 and H0542: 1.			
203	HTEHI14	1102680	213	209 - 541	1113	Asp-57 to Lys-62.	AR089: 5, AR061: 5 H0038: 4			
		526687	767	216 - 458	1667					
204	HETDT70	1228235	214	1 - 588	1114	Gly-33 to Asp-45, Ser-78 to Gly-85.	AR089: 153, AR061: 40 H0648: 138, L0666: 63, L0595: 48, L0662: 47, L0663: 47, S0360: 45, H0670: 44, H0659: 43, L0659: 41, L0526: 39, S0358: 37, L0664: 35, L0717: 31, L0775: 31, H0657: 30, L0750: 30, T0010: 29, L0655: 29, L0665: 27, H0543: 27, L0598: 23, H0672: 23, S0330: 23, H0170: 21, L0351: 21, L0520: 21, L0646: 19, L0521: 19, L0752: 19, S0380: 18, L0596: 18, L0361:			

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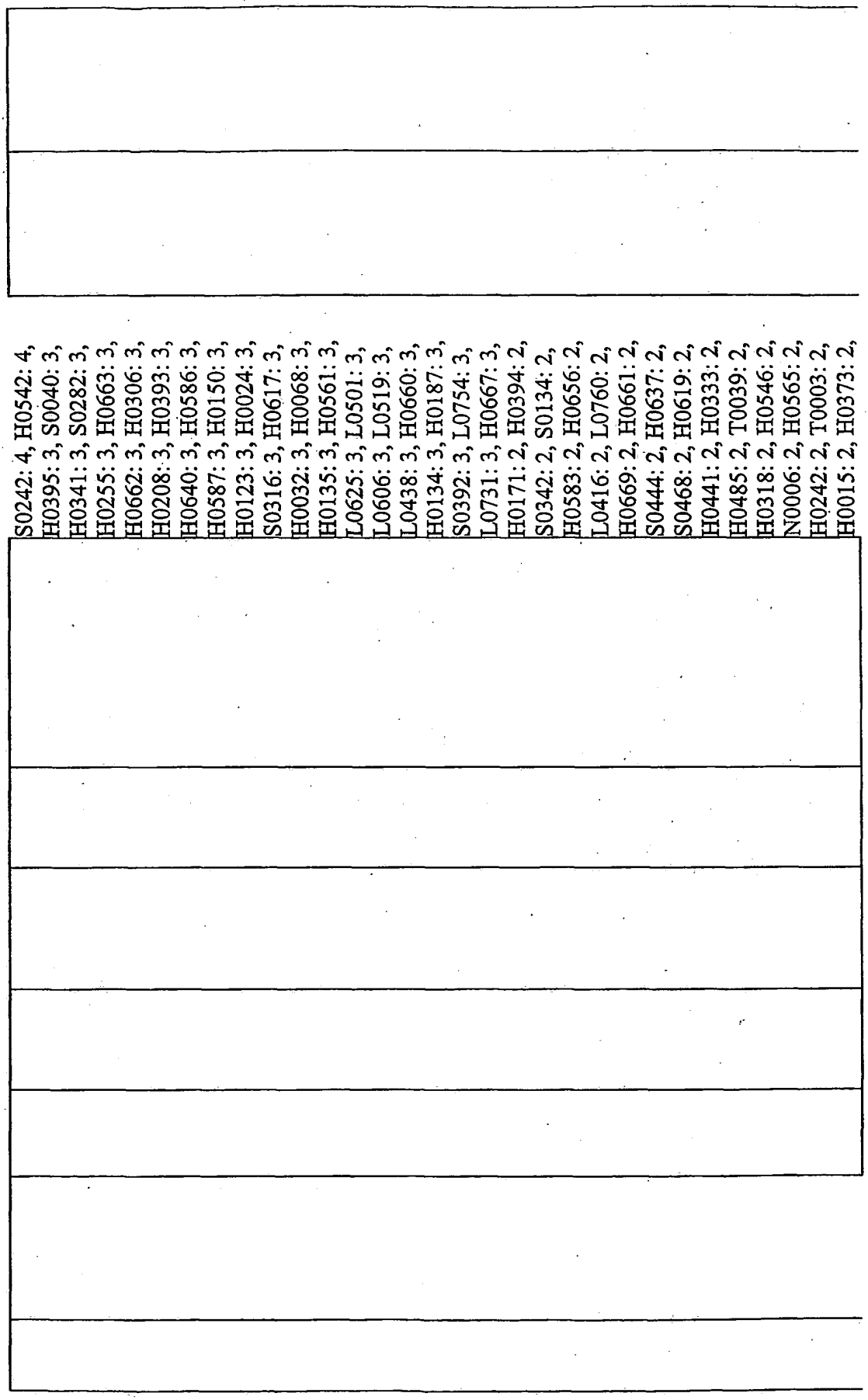
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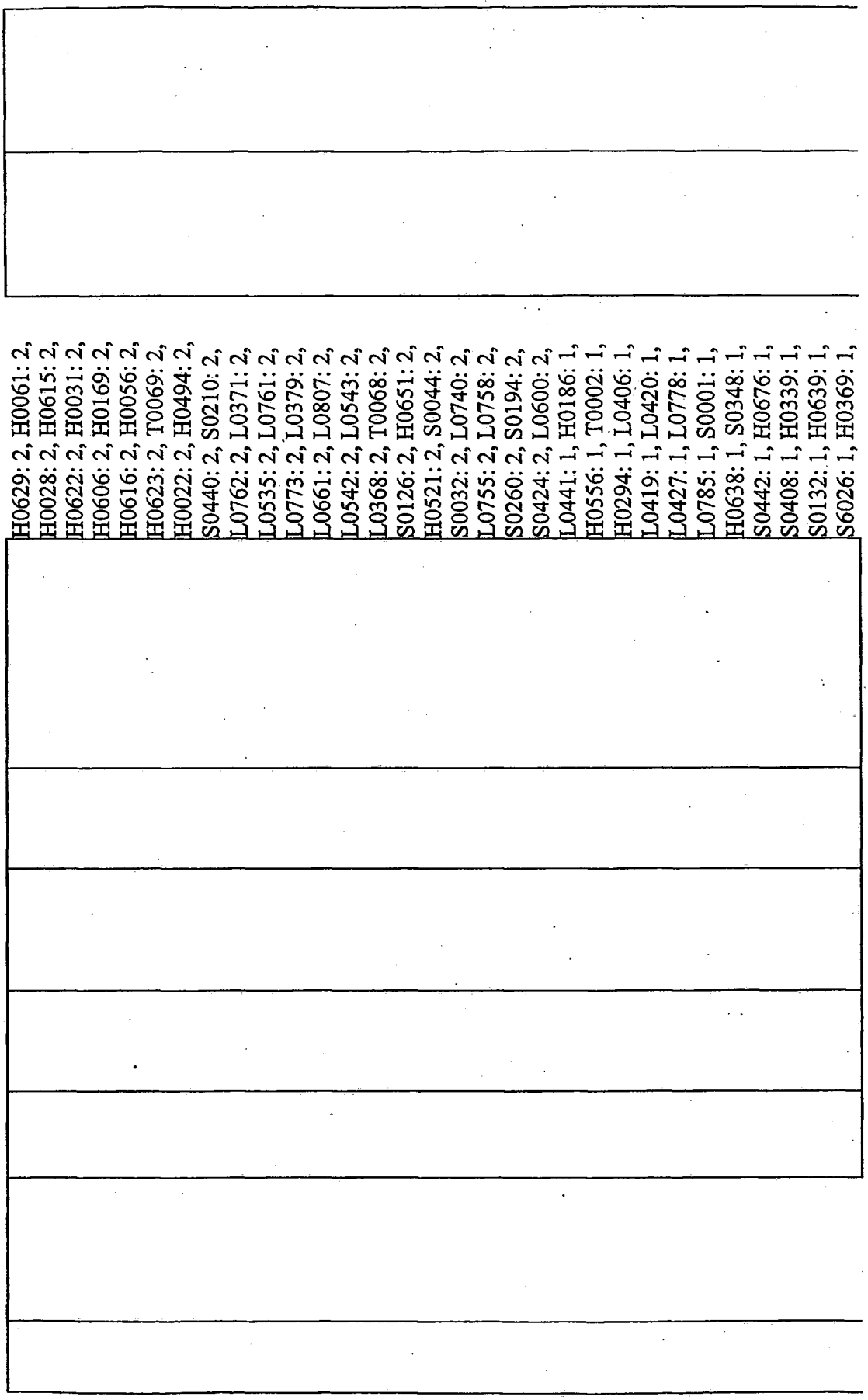
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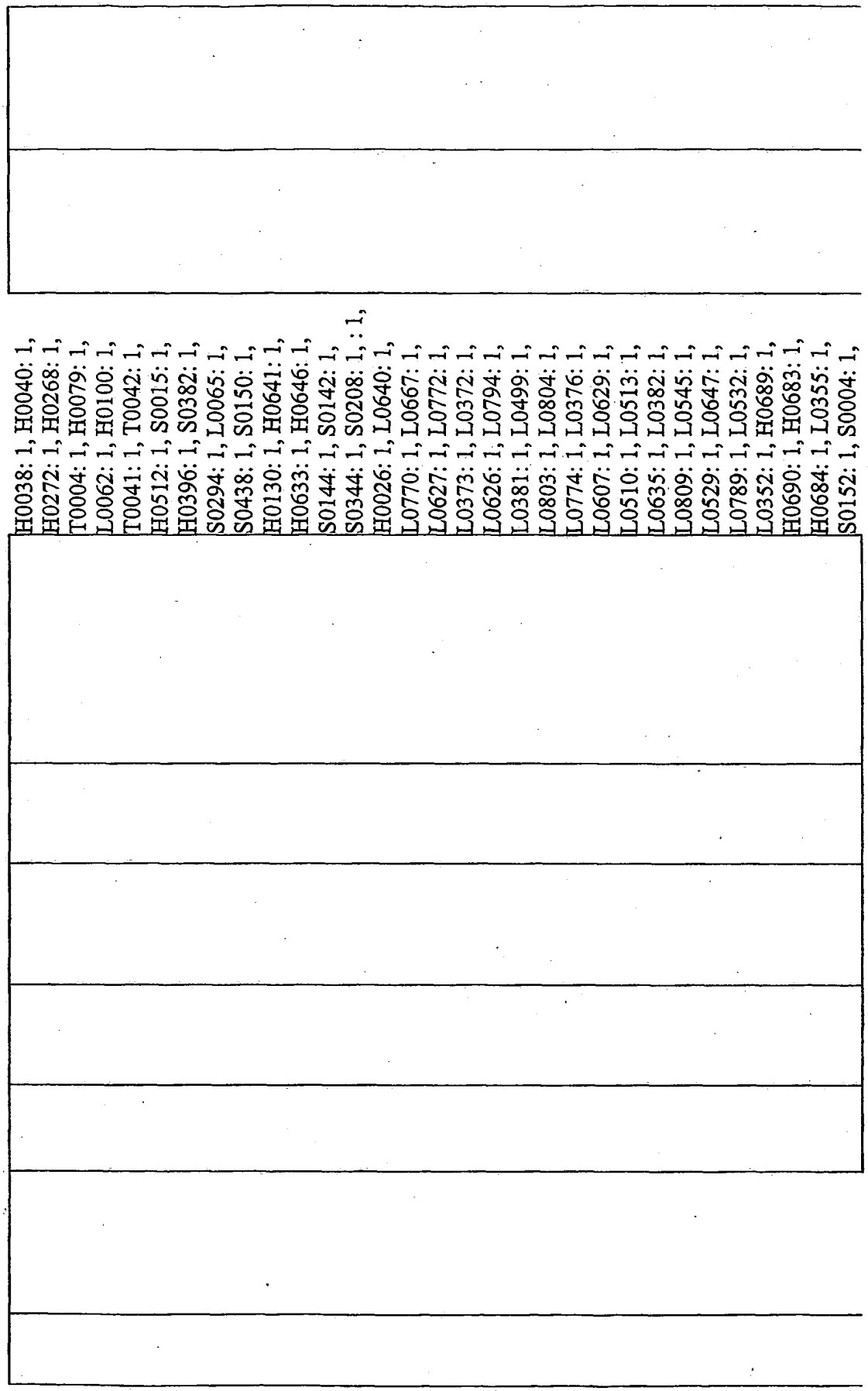
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205	HPIAT34	936262		215	248 - 574	1115		AR061: 7, AR089: 3 L0752: 3, L0748: 2, L0740: 2, L0731: 2, S0358: 1, H0438: 1, H0574: 1, H0046: 1, H0041: 1, H0272: 1, S0150: 1, L0794: 1, L0803: 1, L0804: 1, L0775: 1, L0661: 1, L0789: 1, H0672: 1, H0539: 1 and L0758: 1.		
206	HDPPO41	1204324		216	102 - 1937	1116	Arg-98 to Thr-104, Gln-117 to Lys-122, Tyr-250 to Leu-262, Leu-294 to Phe-304,	AR089: 0, AR061: 0 L0439: 13, L0748: 7, H0591: 4, L0770: 4, L0779: 4, L0777: 4,		

	Gly-359 to Lys-367, Arg-382 to Phe-393, Pro-572 to Ser-592.					H0622: 3, H0560: 3, L0794: 3, L0518: 3, L0752: 3, L0588: 3, S0376: 2, H0013: 2, H0581: 2, H0231: 2, L0163: 2, H0090: 2, H0623: 2, S0142: 2, L0772: 2, L0766: 2, L0655: 2, L0665: 2, H0144: 2, L0565: 2, L0352: 2, H0689: 2, L0758: 2, L0759: 2, H0542: 2, T0002: 1, H0657: 1, S0116: 1, H0341: 1, S0212: 1, H0638: 1, S0007: 1, H0619: 1, H0411: 1, S0278: 1, H0497: 1, H0486: 1, H0635: 1, H0156: 1, H0046: 1, H0051: 1, S6028: 1, S0003: 1, H0551: 1, H0509: 1, H0641: 1, H0646: 1, S0002: 1, H0529: 1, L0640: 1, L0639: 1, L0768: 1, L0804: 1, L0651: 1, L0659: 1, L0809: 1, L0788: 1, L0663: 1, H0701: 1, H0703: 1, S0374: 1, H0547: 1,

								H0522: 1, H0555: 1, H0478: 1, L0744: 1, L0750: 1, L0731: 1, H0423: 1 and S0424: 1.		
		963126	769	102 - 620	1669	Arg-98 to Thr-104, Gln-117 to Lys-122.				
207	HMSHI83	1204709	217	2 - 1720	1117	Arg-59 to Thr-65, Gln-78 to Lys-83, Tyr-211 to Leu-223, Leu-255 to Phe-265, Gly-320 to Lys-328, Arg-343 to Phe-354, Pro-533 to Ser-553.		AR089: 4, AR061: 3 L0439: 13, L0748: 7, H0591: 4, L0770: 4, L0779: 4, L0777: 4, H0622: 3, H0560: 3, L0794: 3, L0518: 3, L0752: 3, L0588: 3, S0376: 2, H0013: 2, H0581: 2, H0231: 2, L0163: 2, H0090: 2, H0623: 2, S0142: 2, L0772: 2, L0766: 2, L0655: 2, L0665: 2, H0144: 2, L0565: 2, L0352: 2, H0689: 2, L0758: 2, L0759: 2, H0542: 2, T0002: 1, H0657: 1, S0116: 1, H0341: 1, S0212: 1, H0638: 1, S0007: 1, H0619: 1, H0411: 1, S0278: 1, H0497: 1, H0486: 1, H0635: 1, H0156: 1, H0046: 1,		

							H0051: 1, S6028: 1, S0003: 1, H0551: 1, H0509: 1, H0641: 1, H0646: 1, S0002: 1, H0529: 1, L0640: 1, L0639: 1, L0768: 1, L0804: 1, L0651: 1, L0659: 1, L0809: 1, L0788: 1, L0663: 1, H0701: 1, H0703: 1, S0374: 1, H0547: 1, H0522: 1, H0555: 1, H0478: 1, L0744: 1, L0750: 1, L0731: 1, H0423: 1 and S0424: 1.		
		963083	770	2 - 841	1670	Arg-59 to Thr-65, Gln-78 to Lys-83, Tyr-211 to Leu-223, Glu-257 to Lys-262.			
208	HTEPM45	952389	218	3 - 1229	1118	Arg-1 to Cys-9, Tyr-47 to Leu-59, Leu-91 to Phe-101, Gly-156 to Lys-164, Arg-179 to Phe-190, Pro-369 to Ser-389.	AR089: 9, AR061: 7 H0486: 102, S0360: 76, L0598: 39, H0251: 35, L0659: 32, H0144: 32, H0013: 31, H0624: 28, H0024: 26, H0050: 25, L0471: 25, L0662: 22, L0748: 22, H0619: 20, H0123: 20, S0003: 18, H0031: 15, H0170: 14, H0124: 14, H0328:		

13, L0750: 13, H0644:
12, S0126: 12, S0028:
11, L0757: 11, S0196:
11, H0587: 10, S0214:
10, L0589: 10, S0040: 9,
H0622: 9, L0731: 9,
H0171: 8, S0356: 8,
L0717: 8, H0586: 8,
H0620: 8, H0252: 8,
H0551: 8, H0352: 8,
H0661: 7, H0081: 7,
L0747: 7, L0755: 7,
S0358: 6, H0598: 6,
L0646: 6, L0771: 6,
S3014: 6, H0343: 6,
H0595: 6, S0212: 5,
H0329: 5, H0208: 5,
H0574: 5, H0316: 5,
H0100: 5, L0666: 5,
L0565: 5, H0658: 5,
S0390: 5, S0027: 5,
S0011: 5, S0192: 5,
S0194: 5, S0376: 4,
H0575: 4, H0039: 4,
H0628: 4, H0090: 4, : 4,
L0663: 4, L0664: 4,
S0374: 4, S0380: 4,
L0744: 4, S0242: 4,
H0295: 3, H0645: 3,
H0411: 3, H0546: 3,
H0012: 3, S0250: 3,

L0768: 3, L0375: 3,
H0684: 3, H0672: 3,
S0332: 3, L0754: 3,
H0294: 2, H0663: 2,
H0592: 2, S0005: 2,
H0333: 2, H0632: 2,
H0485: 2, T0060: 2,
H0599: 2, H0309: 2,
H0544: 2, H0545: 2,
H0041: 2, H0375: 2,
H0553: 2, L0142: 2,
H0647: 2, L0776: 2,
L0665: 2, H0648: 2,
S0330: 2, S0378: 2,
S0206: 2, S0032: 2,
L0751: 2, H0668: 2,
S0384: 2, H0506: 2,
L0615: 1, S0342: 1,
H0381: 1, S0116: 1,
S0001: 1, H0664: 1,
H0125: 1, S0354: 1,
T0008: 1, H0640: 1,
H0370: 1, H0391: 1,
T0039: 1, H0101: 1,
H0245: 1, H0156: 1,
L0021: 1, H0122: 1,
H0318: 1, H0231: 1,
H0049: 1, T0003: 1,
H0051: 1, H0286: 1,
H0364: 1, H0428: 1,
T0023: 1, L0143: 1,

		953366	771	16 - 942	1671		H0111: 1, H0163: 1, H0591: 1, H0038: 1, H0616: 1, H0058: 1, T0069: 1, H0080: 1, L0351: 1, L0564: 1, H0646: 1, H0654: 1, S0208: 1, L0763: 1, L0373: 1, L0764: 1, L0773: 1, L0648: 1, L0521: 1, L0767: 1, L0522: 1, L0775: 1, L0806: 1, L0607: 1, L0512: 1, L0634: 1, L0526: 1, L0783: 1, L0367: 1, H0547: 1, H0682: 1, H0659: 1, H0660: 1, H0666: 1, S0118: 1, S0037: 1, H0445: 1, L0590: 1, L0603: 1, H0665: 1, H0667: 1 and S0446: 1.		
209	HE8OV13	1228507	219	3 - 1703	1119	Glu-6 to Asp-12, Ser-55 to Leu-61, Glu-124 to Ser-133, Gly-152 to Pro-160, Glu-180 to Ile-186, Leu-194 to Asp-199, Thr-208 to Arg-223, Pro-257 to Gln-262,	AR089: 1, AR061: 1 L0758: 19, L0777: 16, L0747: 13, L0750: 13, L0748: 10, H0692: 9, L0775: 6, L0749: 6, L0766: 5, L0774: 5, L0740: 5, L0764: 4, L0662: 4, S0126: 4,		

L0752: 4, H0624: 3, H0090: 3, H0560: 3, L0769: 3, L0768: 3, L0783: 3, L0755: 3, H0171: 2, S0007: 2, H0497: 2, H0486: 2, H0052: 2, H0316: 2, H0494: 2, S0150: 2, L0776: 2, L0655: 2, L0659: 2, L0665: 2, H0547: 2, S0027: 2, L0756: 2, L0759: 2, L0588: 2, H0136: 2, H0542: 2, H0341: 1, H0664: 1, H0458: 1, H0125: 1, S0418: 1, S0376: 1, S0360: 1, H0489: 1, S0132: 1, S0300: 1, H0351: 1, H0601: 1, H0632: 1, H0013: 1, H0244: 1, H0069: 1, H0427: 1, H0318: 1, H0581: 1, H0421: 1, H0204: 1, H0327: 1, H0046: 1, S0388: 1, S0051: 1, S6028: 1, H0687: 1, S0003: 1, H0252: 1, H0615: 1, H0428: 1, T0006: 1, H0553: 1, L0055: 1, H0038: 1,	Pro-312 to Leu-327, Pro-332 to Thr-338, His-412 to Gln-418, Val-470 to Phe-475.					

							H0551: 1, H0100: 1, H0647: 1, S0142: 1, S0344: 1, H0529: 1, L0763: 1, L0770: 1, L0639: 1, L0761: 1, L0667: 1, L0641: 1, L0374: 1, L0767: 1, L0375: 1, L0383: 1, L0647: 1, L0792: 1, L0663: 1, L0664: 1, H0520: 1, H0689: 1, H0682: 1, H0670: 1, S0378: 1, S0380: 1, H0555: 1, H0478: 1, S3012: 1, L0742: 1, L0439: 1, L0754: 1, L0731: 1, L0592: 1, L0608: 1, L0601: 1, H0543: 1, H0422: 1 and H0352: 1.		
		911341	772	2 - 1162	1672	Pro-39 to Gln-44, Pro-94 to Asp-101.			
210	HELGU27	1011928	220	103 - 837	1120	His-6 to Asn-11.	AR061: 5, AR089: 2 H0251: 5, S0045: 2, S0354: 1, H0587: 1, H0375: 1 and L0565: 1.		
		923702	773	2 - 640	1673	His-6 to Asn-11, Asp-74 to Ala-83, Asp-95 to Leu-101, Leu-108 to Ser-113.			

211	HHEDC90	1226157	221	192 - 3269	1121	Arg-8 to Lys-19, Gln-75 to Pro-84, Ser-112 to Ser-120, Asn-132 to Glu-138, Ala-159 to Lys-172, Arg-217 to Gln-223, Asp-254 to Ser-259, Glu-297 to Gln-304, Pro-385 to Lys-395, Tyr-422 to Leu-427, Gln-438 to Glu-446, Arg-500 to Leu-510, Leu-555 to Thr-562, Pro-568 to Asp-573, Ser-648 to Ser-653, Ala-770 to Gly-777, Trp-803 to Leu-808, Leu-833 to Trp-843, Ala-851 to Thr-856, Lys-866 to Gly-873, Leu-904 to Arg-911, Arg-953 to Arg-961, Cys-973 to Arg-978, Pro-1003 to Arg-1016.	AR061: 3, AR089: 3 H0250: 4, L0766: 4, H0543: 4, H0559: 3, H0306: 2, H0635: 2, H0641: 2, H0521: 2, L0779: 2, H0542: 2, H0423: 2, H0556: 1, H0402: 1, L0468: 1, H0190: 1, H0069: 1, H0581: 1, H0087: 1, T0041: 1, L0761: 1, L0768: 1, S0053: 1, H0672: 1 and H0422: 1.		
		911447	774	1 - 687	1674	His-1 to Leu-7, Leu-52 to Thr-59, Pro-65 to Asp-70, Ser-145 to Ser-150.			
212	HNBRB59	685902	222	28 - 339	1122	Ala-47 to Gly-55.	H0026: 1, L0560: 1, L0378: 1 and H0595: 1.		

		738995	775	1 - 237	1675	Asn-17 to Lys-25, Arg-40 to Glu-46, Lys-64 to His-75.			
213	HNNBI16	965414	223	38 - 352	1123	Arg-12 to Val-20, Gln-43 to Glu-51.	AR089: 1, AR061: 1 H0521: 4, H0650: 3, H0677: 3, H0656: 2, H0069: 2, H0581: 2, H0542: 2, H0423: 2, H0255: 1, L0539: 1, S0358: 1, H0575: 1, H0457: 1, H0083: 1, H0063: 1, H0560: 1, S0002: 1, H0529: 1, H0697: 1, H0543: 1 and H0422: 1.		
214	HUJCL61	1223496	224	135 - 2861	1124	Arg-8 to Lys-19, Gln-75 to Pro-84, Ser-112 to Ser-120, Asn-132 to Glu-138, Ala-159 to Lys-172, Arg-217 to Gln-223, Asp-254 to Ser-259, Glu-297 to Gln-304, Pro-385 to Lys-395, Tyr-422 to Leu-427, Gln-438 to Glu-446, Arg-500 to Leu-510, Leu-555 to Thr-562, Pro-568 to Asp-573, Ser-648 to Ser-653,	AR089: 3, AR061: 1 L0766: 6, H0521: 6, H0250: 5, H0543: 5, H0559: 4, H0581: 4, L0761: 4, L0779: 4, H0542: 4, H0650: 3, H0306: 3, H0069: 3, H0023: 3, H0423: 3, H0422: 3, H0677: 3, H0656: 2, H0255: 2, H0257: 2, H0635: 2, H0560: 2, H0641: 2, L0789: 2, L0777: 2, H0556: 1, H0402: 1, L0539: 1, S0358: 1,		

							Ala-770 to Gly-777, Trp-803 to Leu-808, Leu-833 to Trp-843, Ala-851 to Thr-856, Gln-863 to Trp-873, Cys-883 to Arg-901.	L0468: 1, H0190: 1, H0575: 1, H0457: 1, H0083: 1, H0063: 1, H0087: 1, T0041: 1, S0002: 1, H0695: 1, H0529: 1, L0764: 1, L0768: 1, S0053: 1, H0697: 1, H0702: 1, H0658: 1, H0672: 1, L0731: 1 and H0445: 1.		
		911432	776	116 - 715	1676	Arg-8 to Lys-19, Gln-75 to Pro-84, Ser-112 to Ser-120.					
215	HWLRC68	1089187	225	33 - 1238	1125			AR061: 2, AR089: 1 S0360: 1, S0132: 1 and H0412: 1.			
		911481	777	210 - 548	1677	Glu-65 to Arg-72.					
216	HFXFH42	1228147	226	383 - 724	1126	Ser-36 to Lys-42, Ala-70 to Gln-86.		AR061: 1, AR089: 0 L0770: 2, L0803: 2, L0439: 2, L0740: 2, L0731: 2, S0001: 1, H0373: 1, L0638: 1, L0766: 1, L0655: 1, L0787: 1, L0788: 1, L0745: 1, L0755: 1 and L0366: 1.			
		713795	778	220 - 399	1678	Glu-28 to Phe-33, His-47 to Ser-53.					
217	HEQAN73	958912	227	12 - 878	1127			AR089: 6, AR061: 3 L0439: 6, L0804: 4,			

								L0794: 3, L0756: 3, L0779: 3, H0125: 2, H0599: 2, H0544: 2, H0046: 2, L0764: 2, L0766: 2, L0803: 2, L0438: 2, H0521: 2, L0731: 2, S0452: 2, S0045: 1, S0046: 1, H0549: 1, H0575: 1, H0374: 1, H0194: 1, H0545: 1, H0083: 1, S0003: 1, H0328: 1, T0006: 1, H0623: 1, L0761: 1, L0768: 1, L0775: 1, L0806: 1, L0805: 1, L0666: 1, L0663: 1, H0520: 1, H0519: 1, H0682: 1, S0380: 1, H0445: 1, H0542: 1 and H0506: 1.		
218	HSLFS31	1106294	228	575 - 252	1128	Met-1 to Glu-14, Thr-73 to Glu-81, Ala-86 to Ile-96.	AR061: 5, AR089: 3 S0044: 1 and S0028: 1.				
		921511	779	3 - 215	1679	Glu-31 to Leu-36.					
219	HELGK56	1103702	229	575 - 33	1129		AR061: 3, AR089: 1 S0045: 1				
		925698	780	129 - 788	1680						
220	HAMFW05	957586	230	1 - 558	1130	Asp-1 to Gly-9, Asp-86 to Glu-91, Pro-97 to Gly-103,	AR089: 13, AR061: 2 H0521: 6, L0757: 5, L0749: 4, L0779: 4,				

						Lys-115 to Asn-121, Pro-159 to Arg-166, Pro-168 to His-173.	H0620: 3, S0040: 2, S0342: 2, H0305: 2, S0418: 2, S0132: 2, H0551: 2, H0412: 2, S0344: 2, L0776: 2, L0659: 2, L0740: 2, L0747: 2, L0752: 2, H0542: 2, T0049: 1, H0656: 1, S0001: 1, H0306: 1, S0360: 1, S0046: 1, H0619: 1, H0370: 1, H0559: 1, H0590: 1, H0266: 1, H0288: 1, H0286: 1, H0252: 1, H0213: 1, H0673: 1, H0116: 1, H0433: 1, H0623: 1, H0560: 1, H0652: 1, S0002: 1, H0529: 1, L0762: 1, L0763: 1, L0772: 1, L0646: 1, L0764: 1, L0765: 1, L0662: 1, L0766: 1, L0526: 1, L0783: 1, L0789: 1, S0126: 1, H0435: 1, H0539: 1, S0152: 1, H0522: 1, H0555: 1, S3014: 1, L0777: 1, L0731: 1, L0758: 1, S0031: 1, S0011: 1 and S0446: 1.		

221	HTEDG81	1193054	231	70 - 828	1131	Leu-58 to Val-64, Lys-120 to Phe-132, Tyr-150 to Thr-157, Glu-178 to Glu-183, Arg-217 to Leu-222, Glu-236 to Ser-252.	AR089: 2, AR061: 2 H0038: 3, L0758: 2, H0616: 1 and T0042: 1.		
		772995	781	75 - 497	1681	Leu-58 to Val-64.			
222	HAMGO24	943287	232	2 - 550	1132	Asp-10 to Phe-15, Ser-57 to Leu-62, Lys-77 to Val-83.	AR089: 2, AR061: 1 L0766: 9, L0742: 6, S0358: 3, L0803: 3, H0521: 3, L0777: 3, L0758: 3, H0413: 2, S0466: 2, L0775: 2, L0666: 2, L0779: 2, L0752: 2, S0360: 1, H0393: 1, H0587: 1, H0486: 1, H0013: 1, H0069: 1, H0575: 1, H0052: 1, H0545: 1, H0510: 1, S0003: 1, H0553: 1, H0560: 1, H0509: 1, S0422: 1, L0598: 1, L0762: 1, L0794: 1, L0804: 1, L0664: 1, H0519: 1, H0522: 1, L0755: 1, S0031: 1 and H0653: 1.		
223	HMWBH91	1193044	233	249 - 1298	1133	Glu-13 to Ser-19, Lys-45 to Pro-50, Ser-89 to Gly-96,	AR061: 2, AR089: 2 L0777: 8, L0779: 5, L0646: 3, L0803: 3,		

						Ser-151 to Arg-156, Tyr-228 to Leu-242, Pro-257 to Phe-262, Asn-265 to Asn-270, Gly-309 to Lys-315, Ile-331 to Ala-338, Glu-345 to Arg-350.	L0448: 2, S0280: 2, L0794: 2, L0766: 2, L0775: 2, S0152: 2, L0439: 2, L0740: 2, L0758: 2, L0595: 2, H0170: 1, T0002: 1, S0134: 1, H0341: 1, L0005: 1, S0132: 1, L0717: 1, H0486: 1, H0013: 1, H0599: 1, H0373: 1, S0003: 1, H0428: 1, H0628: 1, T0067: 1, H0633: 1, H0529: 1, L0772: 1, L0382: 1, L0665: 1, H0519: 1, S0126: 1, H0435: 1, H0666: 1, S0380: 1, H0521: 1, S0013: 1, H0555: 1, H0478: 1, L0748: 1, L0747: 1, L0752: 1, L0731: 1, L0759: 1, H0445: 1, L0480: 1, H0667: 1 and H0422: 1.		
		882083	782	73 - 1293	1682	Pro-48 to Gly-54, Ser-56 to Ser-76, Lys-102 to Pro-107, Ser-146 to Gly-153, Ser-208 to Arg-213, Tyr-285 to Leu-299,			

						Pro-314 to Phe-319, Asn-322 to Asn-327, Gly-366 to Lys-372, Ile-388 to Ala-395, Glu-402 to Arg-407.			
224	HOECH19	965639	234	140 - 934	1134	Ala-5 to Ser-11, Ser-101 to Asn-112.	AR061: 8, AR089: 3 L0759: 9, L0758: 8, L0439: 5, L0163: 4, L0809: 4, L0779: 4, L0770: 3, L0750: 3, L0777: 3, H0063: 2, L0794: 2, L0766: 2, L0659: 2, L0438: 2, S0126: 2, H0666: 2, L0747: 2, L0757: 2, H0542: 2, H0656: 1, L0785: 1, H0574: 1, L0105: 1, H0687: 1, H0644: 1, H0038: 1, H0616: 1, L0475: 1, L0520: 1, L0769: 1, L0646: 1, L0764: 1, L0803: 1, L0774: 1, L0775: 1, L0776: 1, L0655: 1, L0559: 1, L0663: 1, L0665: 1, H0684: 1, S0152: 1, H0555: 1, L0751: 1, L0749: 1, L0755: 1, L0731: 1, S0434: 1,		

							S0242: 1, H0543: 1, H0422: 1 and S0412: 1.		
225	HSRAA80	1121919	235	2 - 379	1135	Ile-1 to Cys-10, Arg-95 to Arg-104.	AR061: 150, AR089: 93 S0011: 1		
		937640	783	2 - 325	1683	Ile-1 to Cys-10, Arg-95 to Phe-106.			
226	HHEDF50	1174682	236	5 - 502	1136		AR089: 3, AR061: 1 H0542: 40, H0543: 10, H0580: 4, H0592: 4, H0510: 4, H0593: 4, H0521: 4, H0551: 3, H0509: 3, H0519: 3, H0650: 2, H0586: 2, H0587: 2, H0544: 2, H0546: 2, H0545: 2, H0522: 2, H0555: 2, H0583: 1, H0602: 1, H0581: 1, H0488: 1, H0689: 1, H0528: 1 and H0694: 1.		
		974396	784	5 - 502	1684				
227	HHEMK34	974395	237	29 - 277	1137	Gln-1 to Val-8.	AR061: 1, AR089: 1 H0542: 40, H0543: 10, H0580: 4, H0592: 4, H0510: 4, H0593: 4, H0521: 4, H0551: 3, H0509: 3, H0519: 3, H0650: 2, H0586: 2, H0587: 2, H0544: 2,		

									H0546: 2, H0545: 2, H0522: 2, H0555: 2, H0583: 1, H0602: 1, H0581: 1, H0488: 1, H0689: 1, H0528: 1 and H0694: 1.		
228	HMAGK69	1105451	238	556 - 77	1138	Ala-3 to Gly-9, Lys-36 to Glu-42, Ala-49 to Glu-55, Ser-90 to Gln-102, His-134 to Trp-139.			AR089: 2, AR061: 1 S0278: 1 and S0052: 1.		
		723186	785	31 - 417	1685	Arg-1 to Ser-6, Lys-23 to Glu-29, Ala-36 to Glu-42, Ser-77 to Gln-89.					
229	HNGNW52	1132300	239	939 - 43	1139	Leu-25 to Ala-31, Ala-102 to Ala-108, Ser-285 to Gly-290.			AR089: 37, AR061: 13 S0050: 1, H0031: 1, S0428: 1, S0028: 1, S0031: 1 and S0260: 1.		
		883074	786	38 - 1009	1686						
230	H6EDK67	974775	240	75 - 668	1140	Lys-29 to Arg-34, Glu-121 to Asp-126, Lys-132 to Asp-155.			AR089: 24, AR061: 7 L0777: 5, S0116: 3, L0809: 3, H0696: 3, H0423: 3, S0282: 2, S0354: 2, H0083: 2, H0316: 2, L0763: 2, L0767: 2, L0805: 2, L0776: 2, L0779: 2, S0114: 1, H0657: 1, H0656: 1, S0358: 1,		

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							Ser-13 to Gln-29, Pro-31 to Lys-38, Asp-82 to Gln-90, His-175 to Gly-180, Thr-186 to Gly-202.	1141	
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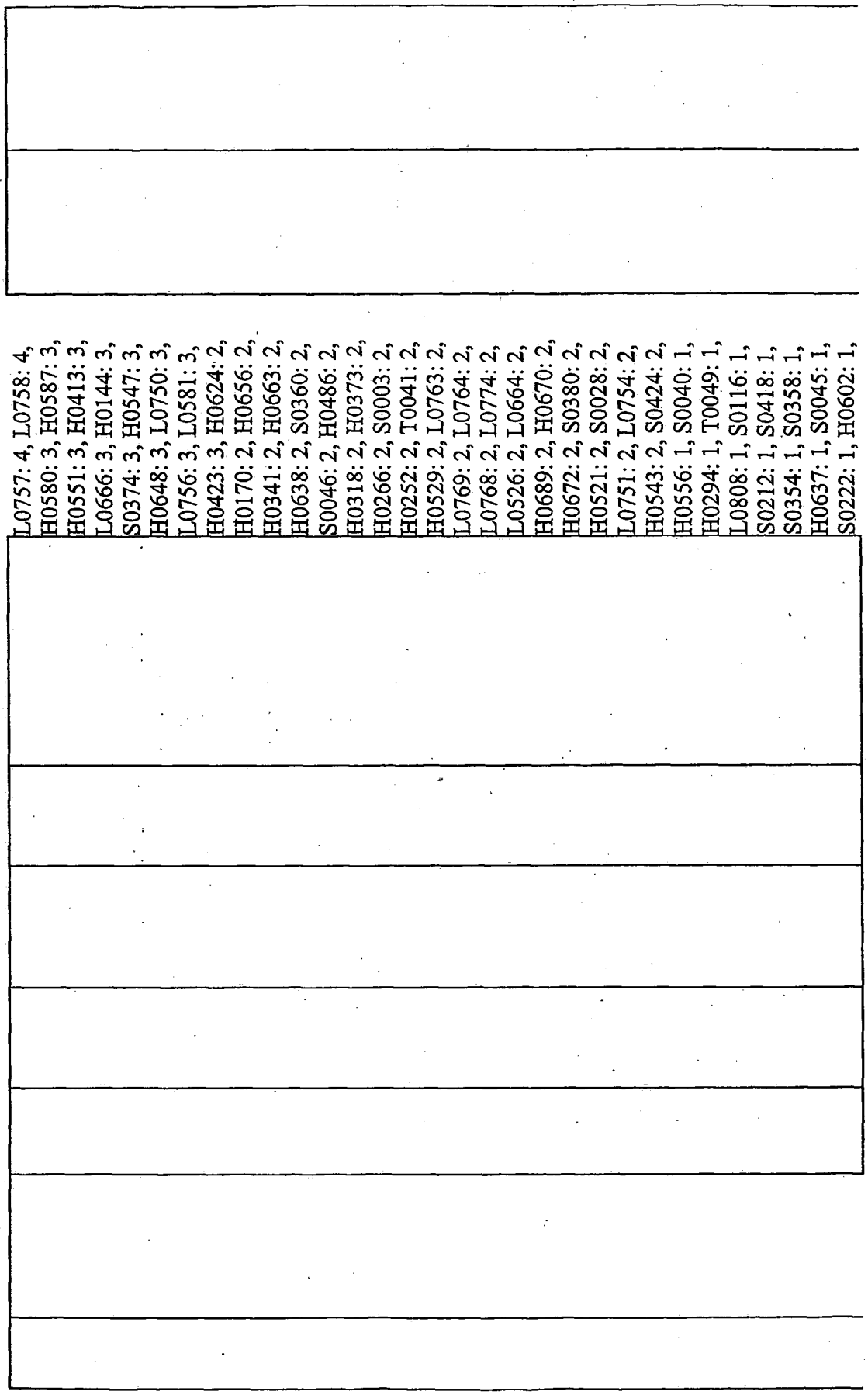
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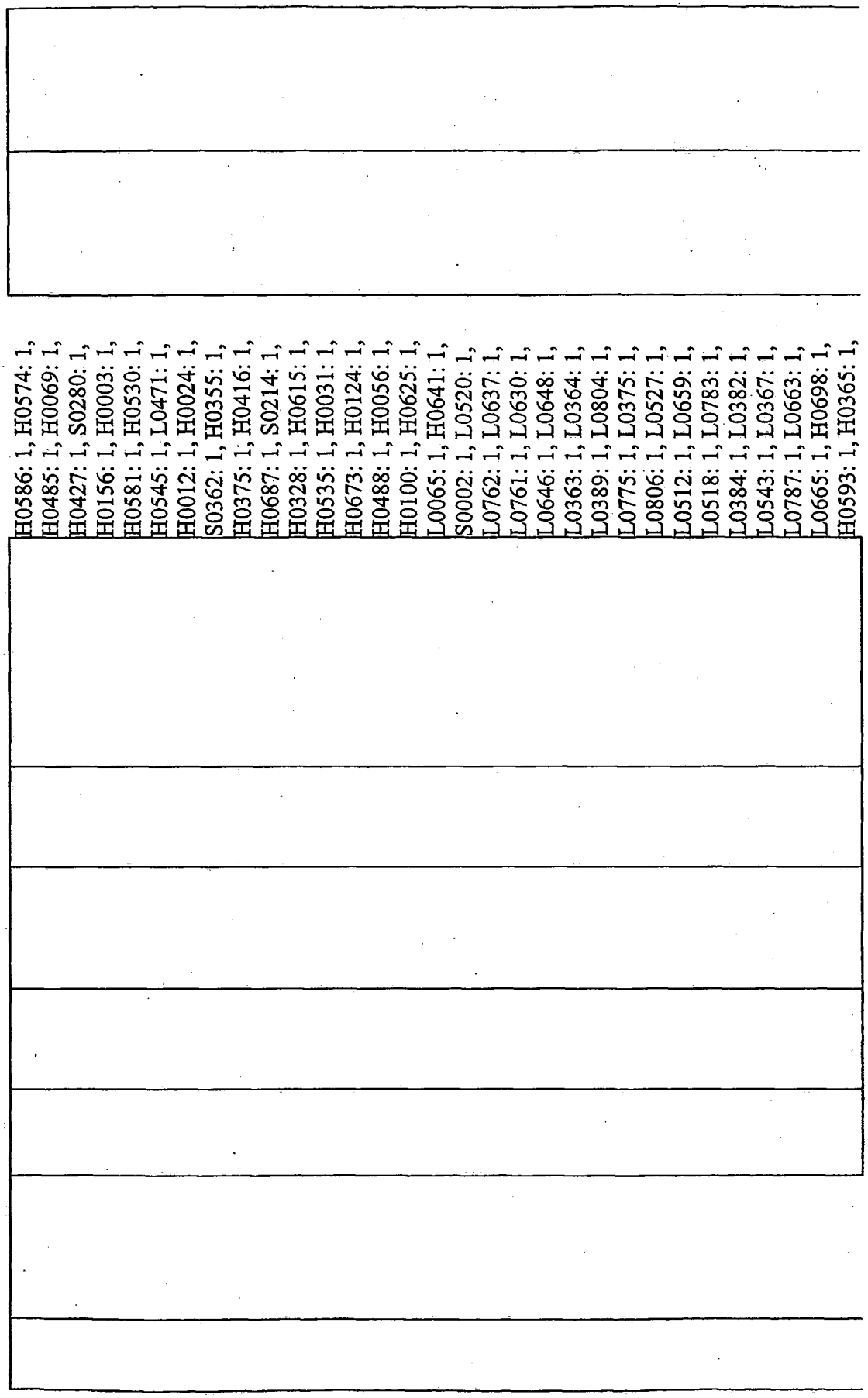
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232	HCE3H71	961681	242	275 - 826	1142		AR089: 14, AR061: 10 L0439: 12, L0438: 5, L0741: 4, H0052: 2, H0009: 2, L0769: 2, L0794: 2, H0229: 1, H0572: 1, L0770: 1, L0796: 1, L0789: 1 and L0786: 1.			
233	HOFMS43	947973	243	3 - 359	1143	Asp-1 to Asp-17, Pro-61 to Asn-66, Tyr-84 to Tyr-90, Ser-103 to Trp-110.	AR051: 15, AR050: 9, AR089: 7, AR061: 5, AR054: 1 H0415: 1			
234	HOVCO14	947999	244	3 - 539	1144	Arg-78 to His-85, Leu-99 to Lys-104, Lys-123 to His-132, Ser-157 to Pro-174.	AR089: 3, AR061: 2 S6016: 1 and H0428: 1.			
235	HTOBE75	1161571	245	3 - 1067	1145	Gly-53 to Thr-60, Ser-72 to Ser-88.	AR061: 2, AR089: 1 H0038: 3, L0748: 3,			

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236	HCMSL08	898203	591896	246	788	1 - 1221	1 - 414	1146	1688	Gly-1 to Thr-10, Ala-14 to Gly-19, Pro-52 to Val-57, Pro-85 to Gln-95, Lys-198 to His-204, Pro-254 to Glu-260, Glu-269 to Ser-282, Glu-302 to Gly-307, Asp-320 to Asp-326, Asp-373 to Ser-380, Ile-396 to Asp-407.	AR051: 86, AR054: 73, AR050: 67, AR089: 10, AR061: 5 H0706: 8, S0366: 5, S0364: 4, L0485: 4, L0604: 4, L0777: 3, L0623: 2, S0362: 2, H0373: 2, L0520: 2, L0747: 2, H0624: 1, H0619: 1, H0550: 1, H0196: 1, L0646: 1, L0809: 1, H0693: 1, S0328: 1 and H0214: 1.		

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237	HDPBS64	846624	247	2 - 685	1147	Phe-7 to Pro-15, Trp-34 to Gly-40.	AR089: 1, AR061: 0 S0222: 1, S0002: 1, L0804: 1, L0663: 1 and H0521: 1.			
238	HDTBR50	846630	248	130 - 342	1148	Ala-2 to Glu-7, Arg-50 to Glu-58.	AR089: 41, AR061: 4 H0486: 2			
239	HTDAB17	890384	249	3 - 605	1149	Asp-1 to Gly-14, Ala-60 to Lys-71, Gln-101 to Glu-118.	AR089: 1, AR061: 0 L0747: 28, L0588: 22, L0757: 19, H0251: 15, S0358: 14, S0045: 13, L0731: 12, H0551: 10, H0412: 10, L0771: 10, L0748: 9, L0758: 9, H0506: 9, H0556: 8, S0046: 8, H0622: 8, H0013: 7, H0623: 7, L0662: 7, S0192: 7, S0003: 6, L0659: 6, L0666: 6, S0328: 6, L0439: 6, L0750: 6, L0759: 6, L0599: 6, L0608: 6, S0040: 5, S0360: 5, H0581: 5,	6p24-p23	125264, 134570, 600511, 601556		

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241	HE9MI70	1217048	251	3 - 785	1151	Gln-1 to Arg-8, Glu-68 to Glu-74, Tyr-93 to Gln-99, Gly-119 to Val-124, Glu-149 to His-154, Asp-178 to Asp-183, Pro-231 to Leu-241.				
		953319	791	1 - 684	1691					
242	HHFDK15	1147850	252	1223 - 609	1152	Ser-24 to Ser-38, Pro-72 to Gly-97, Lys-146 to His-153, Ser-173 to Ser-182, Leu-192 to Gln-201.	AR061: 72, AR089: 44 L0438: 7, L0805: 4, L0779: 4, L0439: 3, H0619: 2, S0010: 2, L0766: 2, L0809: 2, L0754: 2, L0755: 2, L0594: 2, L0601: 2, H0422: 2, S0430: 1, H0656: 1, H0484: 1, S0360: 1, S0222: 1, H0581: 1, H0327: 1,			

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		854734	792	3 - 380	1692	Gly-17 to Thr-26, Glu-93 to Asp-101, Arg-117 to Ala-125.				
243	HOSNZ11	1162664	253	2 - 481	1153	Gln-10 to Thr-18, Ser-40 to Lys-47, Lys-59 to Lys-64, Lys-73 to Leu-82, Asp-145 to Thr-160.		AR061: 6, AR089: 2 L0439: 4, L0770: 2, L0794: 2, L0438: 2, L0740: 2, H0599: 1, T0082: 1, S0003: 1, H0644: 1, L0639: 1, S3014: 1, S0028: 1, S0206: 1, L0756: 1, L0779: 1 and L0752: 1.		
		965875	793	3 - 461	1693					
244	HTAEW05	1151514	254	98 - 817	1154	Ala-27 to Ala-36, Glu-41 to Asp-48, Asp-84 to Lys-92, Ala-140 to Glu-145, Leu-168 to Glu-173, Gln-213 to Ser-218.		AR089: 11, AR061: 7 L0766: 3, L0617: 1, H0069: 1, H0318: 1, H0050: 1, S0250: 1, L0804: 1, L0663: 1, L0750: 1, L0786: 1, L0752: 1 and L0592: 1.		
		838562	794	91 - 615	1694	Ala-27 to Ala-36,				

						Glu-41 to Asp-48, Asp-84 to Lys-92, Ala-140 to Glu-145.	AR089: 6, AR061: 6 H0634: 4, H0547: 3, H0521: 3, H0224: 2, H0208: 2, H0040: 2, H0529: 2, H0144: 2, H0656: 1, S0356: 1, H0600: 1, T0039: 1, H0013: 1, T0110: 1, H0046: 1, H0266: 1, H0032: 1, H0090: 1, H0038: 1, H0551: 1, T0041: 1, T0042: 1, H0509: 1, S0150: 1, H0539: 1, H0518: 1, S0152: 1, S0011: 1 and H0136: 1.		
245	HTTKN45	1181807	255	249 - 1772	1155	Gln-2 to Ala-11, Pro-23 to Gly-32, Lys-38 to Gln-52, Thr-57 to Ser-64, Thr-72 to Ala-78, Asp-88 to Asp-93, Lys-107 to Gln-126.				
		914589	795	2 - 706	1695	Gly-14 to Glu-38, Asn-90 to Lys-100, Lys-150 to Val-158, Ser-166 to Gly-175.				
246	HUSJN62	923146	256	1189 - 353	1156	Gln-3 to Gly-9, Ala-100 to Phe-107, Lys-119 to Arg-130, His-132 to Leu-137, Glu-155 to Ser-167, Val-194 to Pro-204, Gly-225 to Ile-233.	AR089: 1, AR061: 0 H0617: 10, L0743: 4, S0358: 3, H0618: 3, H0052: 3, H0687: 3, H0135: 3, H0494: 3, L0646: 3, L0750: 3, L0731: 3, L0757: 3,	16		

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247	HTEIU92	1102681	257	1 - 564	1157	Asp-5 to Arg-13, Thr-37 to Ser-45, Ser-131 to Pro-137, Glu-154 to His-160, Lys-162 to Arg-168, Ile-180 to Asn-185.	AR061: 3, AR089: 1 H0038: 3			
		870652	796	1 - 339	1696	Asp-5 to Arg-13, Thr-37 to Ser-45.				
248	HAQMD86	1105267	258	1 - 1911	1158		AR061: 1, AR089: 1 L0748: 8, L0439: 8, L0766: 5, L0803: 5, L0749: 4, L0731: 4, S0046: 3, L0794: 3, L0805: 3, L0809: 3, L0666: 3, L0438: 3, H0543: 3, S0376: 2,			

S0007: 2, H0373: 2, H0644: 2, L0455: 2, L0598: 2, L0769: 2, L0646: 2, L0804: 2, L0774: 2, L0789: 2, H0521: 2, H0627: 2, L0743: 2, L0740: 2, L0754: 2, L0595: 2, H0170: 1, H0656: 1, S0116: 1, H0638: 1, H0125: 1, S0418: 1, S0420: 1, S0356: 1, S0360: 1, H0619: 1, H0411: 1, H0586: 1, H0486: 1, H0013: 1, L0021: 1, H0098: 1, H0575: 1, H0004: 1, H0052: 1, S6028: 1, H0266: 1, H0674: 1, H0090: 1, H0063: 1, H0641: 1, H0646: 1, L0640: 1, L0763: 1, L0770: 1, L0761: 1, L0373: 1, L0800: 1, L0641: 1, L0764: 1, L0773: 1, L0783: 1, H0144: 1, L0565: 1, H0593: 1, H0659: 1, H0658: 1, H0522: 1, S0392: 1, L0751: 1, L0747: 1, L0777: 1,

		961459	797	2 - 1912	1697	Tyr-1 to Gly-6.	L0755: 1, L0757: 1, L0759: 1, S0026: 1, S0242: 1 and H0542: 1.			
249	HBJJG02	1151462	259	501 - 1418	1159	Arg-12 to Tyr-23, Ser-93 to Thr-98, Lys-108 to Ser-113, Met-124 to Trp-129, Asp-173 to Ser-181, Pro-208 to Leu-213, Met-226 to Ser-231, Thr-250 to Pro-256, Glu-263 to Glu-273, Gln-301 to Arg-306.	AR089: 79, AR061: 26 L0002: 1, H0156: 1, L0021: 1, H0318: 1, H0561: 1, L0662: 1, L0794: 1, L0766: 1, S0026: 1, H0542: 1 and H0506: 1.			
		919508	798	2 - 1087	1698					
250	HBJJN65	1151463	260	2 - 532	1160	Lys-49 to Thr-61, Ser-75 to Val-92, Phe-96 to Pro-124, Leu-139 to Ile-146.	AR061: 8, AR089: 4 S0426: 2, S0126: 2, H0318: 1 and H0050: 1.			
		960507	799	1 - 924	1699	Lys-47 to Thr-59, Ser-73 to Val-90, Phe-94 to Pro-122, Leu-137 to Ile-144, Ile-197 to Trp-205, Glu-219 to Gly-228.				
251	HBMUJ35	1195500	261	2117 - 288	1161	Gly-7 to Tyr-15.	AR089: 8, AR061: 8 L0439: 13, L0438: 4, H0046: 3, L0663: 3, H0556: 2, H0023: 2, T0010: 2, L0769: 2,			

		956041	800	627 - 253	1700		L0655: 2, H0436: 2, L0743: 2, L0744: 2, L0748: 2, L0754: 2, L0747: 2, L0731: 2, L0759: 2, L0605: 2, S0116: 1, S0418: 1, H0619: 1, H0261: 1, S0222: 1, H0333: 1, H0492: 1, H0599: 1, H0052: 1, H0178: 1, H0050: 1, H0620: 1, H0179: 1, H0674: 1, S0364: 1, H0708: 1, H0100: 1, S0440: 1, S0142: 1, L0762: 1, L0796: 1, L0761: 1, L0521: 1, L0767: 1, L0766: 1, L0805: 1, L0652: 1, L0659: 1, L0783: 1, L0809: 1, L0665: 1, L0352: 1, H0660: 1, H0555: 1, L0749: 1, L0756: 1, L0777: 1, L0758: 1, L0595: 1 and H0542: 1.		
252	HCEBP60	1227635	262	1014 - 3572	1162	Asp-7 to Glu-28, Ser-42 to Asp-69, Gln-79 to Asp-102, Leu-105 to Cys-112,	AR061: 7, AR089: 5 H0052: 3, H0135: 3, L0794: 3, L0439: 3, L0749: 3, H0583: 2,		

						Ala-122 to Ser-132, Gly-151 to Arg-161, Glu-270 to Tyr-277, Cys-282 to Lys-290, Arg-402 to Glu-407, Gly-553 to Pro-561, Gly-615 to Gly-631, Pro-652 to Arg-660, Pro-662 to Ala-667, Pro-761 to Gly-768, Ser-792 to Ser-806.	H0550: 2, H0253: 2, S0002: 2, L0769: 2, L0783: 2, H0547: 2, H0555: 2, L0748: 2, L0747: 2, L0750: 2, L0758: 2, H0295: 1, S0114: 1, S0134: 1, H0255: 1, H0305: 1, S0420: 1, L0618: 1, S0376: 1, S0046: 1, H0619: 1, H0261: 1, S0222: 1, H0635: 1, T0082: 1, H0318: 1, L0040: 1, H0545: 1, H0201: 1, L0052: 1, H0688: 1, H0213: 1, H0031: 1, H0634: 1, H0087: 1, H0488: 1, H0561: 1, S0210: 1, L0639: 1, L0662: 1, L0768: 1, L0803: 1, L0655: 1, L0661: 1, L0658: 1, L0809: 1, L0666: 1, L0438: 1, H0539: 1, S0378: 1, H0518: 1, H0521: 1, L0741: 1, H0707: 1, L0584: 1, H0423: 1 and H0422: 1.		
		812297	801	3 - 365	1701				

253	HFGMA55	1150870	263	1 - 444	1163	Phe-6 to Glu-15, Asp-21 to Leu-33, Met-141 to Cys-147.	AR061: 1, AR089: 1 L0439: 13, L0438: 4, H0046: 3, L0663: 3, H0556: 2, H0023: 2, T0010: 2, L0769: 2, L0655: 2, H0436: 2, L0743: 2, L0744: 2, L0748: 2, L0754: 2, L0747: 2, L0731: 2, L0759: 2, L0605: 2, S0116: 1, S0418: 1, H0619: 1, H0261: 1, S0222: 1, H0333: 1, H0492: 1, H0599: 1, H0052: 1, H0178: 1, H0050: 1, H0620: 1, H0179: 1, H0674: 1, S0364: 1, H0708: 1, H0100: 1, S0440: 1, S0142: 1, L0762: 1, L0796: 1, L0761: 1, L0521: 1, L0767: 1, L0766: 1, L0805: 1, L0652: 1, L0659: 1, L0783: 1, L0809: 1, L0665: 1, L0352: 1, H0660: 1, H0555: 1, L0749: 1, L0756: 1, L0777: 1, L0758: 1, L0595: 1 and H0542: 1.

254	HLHTE91	789603	264	1 - 1203	1164	Thr-5 to Glu-13, Asp-19 to Leu-31.	AR050: 526, AR054: 486, AR051: 283, AR089: 1, AR061: 1 L0439: 5, L0662: 4, H0543: 4, L0766: 3, L0665: 3, L0751: 3, L0777: 3, H0618: 2, H0052: 2, H0024: 2, L0666: 2, H0265: 1, S0212: 1, H0580: 1, H0208: 1, H0393: 1, H0549: 1, H0550: 1, S0222: 1, H0333: 1, H0559: 1, H0486: 1, T0114: 1, S0049: 1, H0041: 1, H0083: 1, H0615: 1, L0055: 1, H0135: 1, H0038: 1, H0634: 1, H0616: 1, H0413: 1, L0370: 1, L0770: 1, L0800: 1, L0768: 1, L0794: 1, L0803: 1, L0804: 1, L0653: 1, L0658: 1, L0789: 1, H0520: 1, H0660: 1, S0044: 1, S0146: 1, L0743: 1, L0740: 1, L0749: 1,		

							L0750: 1, L0779: 1, L0752: 1, L0755: 1, L0731: 1 and H0423: 1.		
		868803	803	3 - 1151	1703	Leu-16 to Lys-21, Arg-30 to Pro-36, Ser-44 to Thr-49, Arg-136 to Arg-150, Leu-160 to Cys-173, Glu-223 to Gly-228, Gly-241 to Gln-249, Ala-260 to Gly-265, Ile-334 to Thr-349, Arg-364 to Glu-371.			
		969604	804	618 - 355	1704				
255	HLYFI58	1151495	265	2 - 625	1165	Glu-9 to Ser-17, Phe-25 to Ala-34, Thr-43 to Asn-53, Met-172 to Gln-177.	AR061: 2, AR089: 1 L0777: 5, H0662: 3, H0251: 3, L0752: 3, L0759: 3, L0593: 3, L0771: 2, L0766: 2, L0666: 2, H0436: 2, L0745: 2, L0747: 2, L0779: 2, L0758: 2, H0650: 1, H0638: 1, S0358: 1, L0717: 1, H0586: 1, H0024: 1, H0373: 1, S0388: 1, S0051: 1, H0266: 1, S0003: 1, H0031: 1, H0551: 1, T0067: 1, S0422: 1, L0520: 1,		

							L0638: 1, L0761: 1, L0764: 1, L0662: 1, L0768: 1, L0774: 1, L0775: 1, L0518: 1, L0790: 1, H0520: 1, H0547: 1, H0365: 1, H0670: 1, H0666: 1, H0672: 1, L0756: 1, L0753: 1, L0757: 1, H0445: 1, S0026: 1, H0423: 1 and S0412: 1.		
		924193	805	2 - 625	1705	Glu-9 to Ser-17, Phe-25 to Ala-34, Thr-43 to Asn-53, Met-172 to Gln-177.			
256	HNNBJ44	1151312	266	53 - 262	1166	Gln-9 to Lys-18, Gly-33 to Leu-64.	AR089: 1, AR061: 0 H0677: 2		
		915273	806	10 - 1665	1706	Arg-12 to Trp-26, Thr-28 to Glu-37, Leu-46 to Lys-51, Thr-85 to Glu-92, Arg-114 to Lys-119, Pro-191 to Asn-208, Lys-214 to Thr-224, Thr-242 to Asn-251, Ser-279 to Tyr-284, Leu-330 to Cys-344, Glu-364 to Tyr-369, Ile-375 to Met-384, Asp-413 to Ser-420,			

						Lys-457 to Pro-470, Gly-478 to Gln-483, Phe-519 to Cys-533.			
257	HSLJI46	997643	267	1 - 540	1167	Lys-1 to Gly-14, Gly-23 to Met-43, Ala-87 to Pro-99, Ile-101 to Ile-121, Gln-126 to Val-135, Val-139 to Cys-147.	AR089: 1, AR061: 0 H0521: 1 and S0390: 1.		
		883028	807	1 - 1551	1707	Lys-1 to Gly-14, Gly-23 to Ser-40.			
258	HTFOK70	1151518	268	1 - 609	1168	Ser-18 to Arg-25, Leu-45 to Pro-62, Gln-67 to Ala-72, Arg-143 to Gln-158, His-194 to Glu-203.	AR061: 0, AR089: 0 H0617: 2, L0589: 2, S0420: 1, S0046: 1, H0575: 1, H0251: 1, H0616: 1, L0775: 1, L0651: 1, L0665: 1, L0748: 1, L0754: 1, L0731: 1, L0758: 1 and S0424: 1.		
		914561	808	179 - 616	1708	Cys-10 to Lys-27, Arg-86 to Gln-101, His-137 to Glu-146.			
259	HUSXO71	1164014	269	3 - 317	1169	Ala-30 to Pro-36, Glu-59 to Thr-71, Ser-77 to Leu-90.	AR089: 14, AR061: 7 H0641: 4, L0596: 4, H0422: 4, L0768: 3, L0779: 3, L0758: 3, T0049: 2, H0486: 2, H0521: 2, H0522: 2, L0748: 2, L0747: 2,		

							L0777: 2, L0608: 2, L0601: 2, L0617: 1, H0497: 1, H0581: 1, H0544: 1, L0471: 1, H0687: 1, H0553: 1, H0090: 1, H0477: 1, H0413: 1, L0372: 1, L0774: 1, L0806: 1, L0659: 1, L0809: 1, L0789: 1, H0658: 1, H0648: 1, H0518: 1, L0750: 1, L0752: 1, L0731: 1, L0759: 1, L0590: 1 and H0423: 1.		
		862649	809	648 - 1514	1709	Arg-1 to Gly-7, Leu-9 to Ser-16, Arg-25 to Cys-35.			
260	HWBDP39	1223498	270	2 - 2239	1170	Glu-19 to Gln-29, Arg-48 to Ser-53, Glu-57 to Lys-73, Asp-103 to Trp-112, Cys-134 to Trp-158, Arg-167 to Asn-172, Pro-200 to Arg-217, Val-225 to Lys-231, Lys-255 to Asp-263, Tyr-303 to Leu-310, Asp-399 to Cys-407, Ser-446 to Gly-464, Asp-478 to Asn-484,	AR089: 2, AR061: 1 L0439: 26, L0748: 22, L0744: 7, L0803: 6, L0805: 6, L0750: 6, H0013: 4, L0809: 4, L0766: 3, L0731: 3, L0758: 3, L0759: 3, H0624: 2, H0171: 2, H0156: 2, L0157: 2, L0471: 2, H0266: 2, H0059: 2, S0002: 2, H0529: 2, L0667: 2, L0800: 2, L0776: 2,		

Gln-566 to Asn-577, Ser-614 to Cys-622, Phe-643 to His-648, Gln-658 to Phe-682, Asn-700 to Glu-729, Leu-737 to Asp-745.	L0659: 2, H0144: 2, L0740: 2, L0747: 2, L0752: 2, T0002: 1, H0650: 1, H0657: 1, L0425: 1, L0481: 1, S0418: 1, H0580: 1, H0351: 1, H0587: 1, H0333: 1, S0010: 1, S0346: 1, H0581: 1, H0596: 1, H0597: 1, H0457: 1, H0086: 1, H0172: 1, H0014: 1, H0373: 1, T0010: 1, H0083: 1, S0003: 1, H0328: 1, H0615: 1, H0119: 1, H0644: 1, S0366: 1, H0090: 1, H0038: 1, H0538: 1, L0770: 1, L0646: 1, L0374: 1, L0662: 1, L0768: 1, L0794: 1, L0804: 1, L0774: 1, L0789: 1, L0532: 1, L0666: 1, H0547: 1, H0519: 1, H0666: 1, S0152: 1, H0696: 1, H0555: 1, L0356: 1, L0749: 1, L0779: 1, S0260: 1, H0445: 1, S0434: 1, L0604: 1, L0601: 1, S0192: 1,			

								S0194: 1, H0542: 1, H0543: 1 and H0352: 1.		
		810403	810	2 - 394	1710	Glu-19 to Gln-29, Arg-48 to Ser-53, Glu-57 to Lys-73.				
261	HKMMQ73	840459	271	1 - 417	1171	Gly-1 to Glu-6, Pro-18 to Lys-26, Glu-29 to Gly-36, Leu-104 to Ser-111, Asn-123 to Gly-130, His-134 to Lys-139.		AR051: 19, AR050: 9, AR054: 8 H0431: 1, H0096: 1, L0659: 1 and H0506: 1.		
		949559	811	66 - 257	1711	Ser-7 to Lys-29.				
262	HVVBK72	1179755	272	557 - 3	1172			AR061: 1, AR089: 1 H0038: 1, H0672: 1 and L0758: 1.		
		933167	812	2 - 397	1712	Glu-38 to Lys-43, Gly-125 to Thr-132.				
263	H7TXB52	981972	273	165 - 1322	1173			AR089: 1, AR061: 0 L0731: 6, H0012: 5, L0803: 4, S0028: 4, H0497: 3, H0581: 3, H0561: 3, L0769: 3, S0418: 2, H0599: 2, L0770: 2, L0771: 2, S0266: 2, L0757: 2, L0591: 2, L0594: 2, L0362: 2, H0668: 2, H0542: 2, H0171: 1, S6024: 1, H0341: 1, H0483: 1, H0663: 1,		

264	HDPRY71	1217205	274	1365 - 661	1174	Gly-92 to Pro-97, Cys-107 to Gln-131, Pro-139 to Ala-147, Pro-149 to Arg-160, Thr-194 to Pro-206.	AR050: 58, AR054: 53, AR051: 41, AR089: 1, AR061: 0 H0644: 2, H0265: 1, S0001: 1, S0358: 1, H0431: 1, T0039: 1, H0575: 1, S0010: 1, H0052: 1, H0263: 1, H0051: 1, H0416: 1, H0212: 1, L0796: 1,	H0125: 1, S0045: 1, H0369: 1, T0039: 1, T0109: 1, H0250: 1, H0635: 1, H0620: 1, H0083: 1, H0266: 1, S0003: 1, H0628: 1, H0032: 1, H0100: 1, T0041: 1, L0641: 1, L0775: 1, L0776: 1, L0655: 1, L0606: 1, L0659: 1, L0809: 1, L0367: 1, L0789: 1, L0663: 1, H0144: 1, S0148: 1, H0519: 1, S0126: 1, H0478: 1, L0751: 1, L0750: 1, L0756: 1, L0759: 1, H0444: 1, S0196: 1 and H0543: 1.
		910910	813	165 - 1322	1713			

							S0378: 1, H0521: 1, H0522: 1, S3014: 1, S0027: 1 and L0747: 1.		
		971345	814	441 - 806	1714	Arg-85 to Lys-92, Leu-102 to Glu-115.			
265	HGOCA12	968763	275	1 - 360	1175		AR061: 210, AR089: 110 L0758: 3, S0364: 2, L0747: 2, S0278: 1, L0622: 1, H0018: 1, L0783: 1, L0809: 1, L0791: 1 and L0759: 1.		
		971583	815	518 - 240	1715				
266	HHCJ29	1077517	276	1 - 2073	1176				
		916885	816	2 - 574	1716				
267	HODGC61	973449	277	43 - 324	1177	Thr-50 to Gln-57.	AR061: 8, AR089: 5 H0615: 3		
268	HBXGQ52	1229467	278	2 - 1003	1178	Gln-20 to Ser-28, Lys-31 to Arg-38, Asn-81 to His-93, Asn-148 to Asp-155, Met-182 to Gly-189, Pro-236 to Arg-243, Ala-258 to Ala-263, Pro-298 to Cys-304, Val-325 to Ala-333.	AR089: 4, AR061: 2 H0438: 3 and S0260: 1.		
		576093	817	1 - 291	1717				
269	HE2JS39	1121932	279	790 - 2	1179	Arg-1 to Lys-10, Gly-171 to Leu-176, Arg-217 to Arg-222,	AR089: 15, AR061: 10 L0750: 9, L0754: 5, L0779: 5, L0755: 4,		

							Glu-226 to Glu-232, Leu-257 to Ser-262.	L0360: 4, S0330: 3, L0747: 3, L0749: 2, L0777: 2, H0624: 1, H0650: 1, H0656: 1, S0376: 1, H0550: 1, H0592: 1, L0638: 1, H0689: 1, H0660: 1, L0731: 1, L0757: 1, L0759: 1 and L0359: 1.		
		957854	818	51 - 716	1718	Gly-1 to Gly-6.				
270	HE7SH21	960302	280	3 - 1124	1180	Pro-11 to Ser-20, Ala-35 to Pro-41, Gln-88 to Trp-95, Arg-111 to Asp-119.		AR089: 1, AR061: 0 L0439: 5, L0592: 3, H0052: 2, L0438: 2, L0741: 2, L0747: 2, S0001: 1, L0005: 1, S0007: 1, H0101: 1, L0109: 1, H0009: 1, H0051: 1, L0769: 1, L0594: 1 and L0595: 1.		
271	HMIAO23	1103488	281	2 - 478	1181	Val-20 to Gln-36, Arg-67 to Glu-78, Pro-154 to Phe-159.		AR061: 4, AR089: 3 H0038: 2, L0439: 2, H0013: 1, S0010: 1, S6028: 1, H0090: 1, H0560: 1 and L0438: 1.		
		675329	819	2 - 397	1719	Asn-1 to Gln-9, Arg-40 to Glu-51.				
272	HELDW45	944301	282	3 - 512	1182	Arg-6 to Gln-13, Thr-44 to Ser-50, Pro-145 to Asn-168.		AR089: 820, AR061: 90 S0045: 1, S0278: 1, H0617: 1 and S0044: 1.		

273	HSRBB31	1121889	283	3 - 509	1183	Tyr-14 to Cys-23, Arg-41 to Lys-46, Ser-53 to Asp-74, Glu-106 to Gln-116, Ser-129 to Leu-135.	AR089: 8, AR061: 8 H0038: 3, S0418: 1, S0132: 1, H0261: 1, H0574: 1, H0046: 1, S0364: 1, S0011: 1 and S0192: 1.		
		958210	820	795 - 1676	1720				
274	HTEOW39	1151517	284	2 - 514	1184	Gly-40 to Val-46, His-66 to Ser-72, Trp-83 to Gly-88, Trp-143 to Gly-149.	AR089: 17, AR061: 14 H0616: 2		
		870566	821	2 - 445	1721	Gly-38 to Val-44.			
275	HE2PE32	1106571	285	1 - 468	1185	Ala-76 to Gly-82, Thr-98 to Leu-105, Glu-126 to Ala-132.	AR089: 0, AR061: 0 H0013: 3, H0271: 2 and H0171: 1.		
		524511	822	2 - 289	1722				
276	HSIDW39	1211446	286	2 - 748	1186		AR051: 12, AR054: 9, AR061: 5, AR089: 2, AR050: 0 H0036: 2, H0590: 2, S0354: 1, H0510: 1 and L0748: 1.		
		775139	823	1 - 501	1723				
		830774	824	12 - 419	1724	Glu-40 to Trp-57, Tyr-59 to Phe-64, Glu-91 to Arg-99, Asp-106 to Arg-114.			
277	HPMLD30	1226192	287	20 - 1666	1187	Val-22 to Asp-27, Gly-37 to Gln-42, Thr-48 to Glu-54,	AR089: 1, AR061: 0 H0624: 1, S6026: 1, S0278: 1, S0051: 1,		

						Lys-61 to Pro-68, Ser-80 to Ser-89, Asp-96 to Phe-101, Leu-146 to Asp-153, Asp-169 to Val-174, Lys-219 to Gly-234, Leu-241 to Gln-247, Asp-269 to Ala-278, Asn-281 to Trp-289.	H0416: 1, H0644: 1, S0052: 1, S0053: 1, S0028: 1, S0032: 1, S0031: 1 and S0260: 1.		
		937414	825	6 - 521	1725					
278	HOEKP17	1204712	288	1 - 897	1188	Arg-12 to Arg-19, Trp-24 to Gly-35, Pro-42 to Arg-54, Ala-56 to Ser-61, Thr-78 to Asp-83, Thr-95 to Cys-108, Lys-174 to Lys-182, Lys-199 to Phe-210, Thr-222 to Ile-227.	AR061: 5, AR089: 2 L0754: 10, S0002: 3, L0766: 3, H0539: 3, H0370: 2, H0575: 2, H0581: 2, S0003: 2, H0038: 2, S0126: 2, L0751: 2, L0779: 2, L0758: 2, H0543: 2, H0664: 1, S0376: 1, H0639: 1, H0644: 1, L0055: 1, H0674: 1, H0090: 1, H0264: 1, H0561: 1, H0529: 1, L0640: 1, L0649: 1, L0803: 1, L0806: 1, H0684: 1, L0752: 1, L0753: 1, H0445: 1, L0608: 1 and L0362: 1.		
		931049	826	3 - 1055	1726	Arg-5 to Arg-12, Trp-17 to Gly-28,				

						Pro-35 to Arg-47, Ala-49 to Ser-54, Thr-71 to Asp-76, Thr-88 to Cys-101, Lys-167 to Lys-175, Lys-192 to Tyr-197.	AR089: 0, AR061: 0 S0028: 4, S0126: 2, S0001: 1, S0282: 1, S0049: 1, S0050: 1, H0271: 1, H0388: 1 and S0390: 1.			
279	HFXDP67	1228141	289	198 - 1205	1189	Pro-18 to Trp-24, Thr-32 to Asp-37, Arg-101 to Asp-107, Ala-148 to Ala-154, Gln-259 to Phe-264.				
		526951	827	266 - 616	1727	Ala-21 to Ala-27.				
280	HJABA59	1199933	290	2 - 904	1190	Pro-49 to Ala-59, Pro-127 to Phe-133, Arg-162 to Asn-173, Cys-183 to Asp-189, Lys-290 to Tyr-295.	AR061: 6, AR089: 3 L0755: 5, L0777: 4, L0752: 4, H0657: 3, S0016: 3, L0803: 3, S0330: 3, L0748: 3, L0740: 3, L0757: 3, H0622: 2, L0653: 2, L0666: 2, L0754: 2, L0779: 2, L0758: 2, S0040: 1, H0662: 1, L0481: 1, H0638: 1, S0418: 1, S0132: 1, H0393: 1, L0717: 1, H0586: 1, H0575: 1, H0052: 1, H0251: 1, L0157: 1, H0057: 1, S0003: 1, T0041: 1,			

							L0794: 1, L0766: 1, L0522: 1, L0659: 1, L0789: 1, L0664: 1, L0665: 1, H0144: 1, S0374: 1, H0648: 1, L0439: 1, L0780: 1, L0731: 1, L0759: 1, L0591: 1 and S0192: 1.		
		713642	828	366 - 902	1728	Arg-6 to Phe-11, Arg-40 to Asn-51, Cys-61 to Asp-67.			
281	HKIXB03	1129055	291	25 - 324	1191	Arg-1 to Val-10, Ala-36 to Gly-47, Leu-66 to Ser-79.	AR061: 5, AR089: 4 H0441: 2		
		924636	829	21 - 371	1729	Arg-1 to Val-10.			
282	HKMMF49	1124742	292	1 - 600	1192	Gln-22 to Lys-28, Asp-69 to Leu-76, Phe-105 to Tyr-113, Leu-181 to Thr-190, Tyr-194 to Ser-200.	AR061: 4, AR089: 2 L0774: 4, L0803: 2, S0418: 1, S0360: 1, H0431: 1, L0157: 1, S0214: 1, H0551: 1, L0662: 1, L0767: 1, L0657: 1, L0659: 1, L0665: 1, H0660: 1 and L0777: 1.		
		677960	830	1 - 600	1730	Gln-22 to Lys-28, Asp-69 to Leu-76, Phe-105 to Tyr-113.			
283	HLDOG51	1151491	293	1 - 555	1193	Tyr-87 to Pro-92, Gln-119 to Ser-124, Glu-152 to Tyr-160.	AR089: 1, AR061: 0 H0090: 2, L0794: 2, L0605: 2, L0485: 2,		

									S0354: 1, H0581: 1, H0052: 1, H0046: 1, H0510: 1, L0769: 1, L0363: 1, L0804: 1, L0755: 1, L0592: 1, S0242: 1 and H0422: 1.		
		918840	831	11 - 955	1731	Lys-46 to His-53, Tyr-135 to Pro-140, Gln-167 to Ser-172, Glu-200 to Tyr-208, Gln-298 to Pro-305.					
284	HSVAL25	1130819	294	787 - 593	1194				AR089: 12, AR061: 9 L0752: 2, H0309: 1, L0518: 1 and S0152: 1.		
		577154	832	99 - 245	1732						
285	HSXCP56	924635	295	213 - 962	1195	Glu-1 to Pro-9, Val-48 to Gly-55, Pro-70 to Thr-79, Arg-94 to Arg-99, Arg-111 to Thr-121, Thr-146 to Arg-154, Thr-179 to Asp-185, Pro-194 to Ser-200, Pro-215 to Thr-220.			AR061: 7, AR089: 5 L0768: 3, L0439: 3, H0618: 2, H0253: 2, H0620: 2, H0616: 2, H0561: 2, L0764: 2, L0766: 2, L0653: 2, H0539: 2, L0744: 2, L0747: 2, L0750: 2, H0318: 1, H0123: 1, H0081: 1, S0051: 1, S0036: 1, H0038: 1, L0630: 1, L0772: 1, L0771: 1, L0794: 1, L0806: 1, L0809: 1, L0666: 1, L0438: 1,		

							H0682: 1, H0683: 1, L0756: 1, L0780: 1, L0752: 1, L0731: 1, L0758: 1 and L0759: 1.		
286	HBCAT08	1167275	296	47 - 2488	1196		AR089: 1, AR061: 1 L0747: 24, L0591: 17, L0794: 15, L0777: 15, L0588: 10, L0750: 9, L0599: 9, S0046: 8, H0013: 8, H0619: 7, T0040: 7, L0748: 7, L0731: 7, L0665: 6, S3014: 6, S0212: 5, H0123: 5, L0471: 5, H0024: 5, L0754: 5, L0717: 4, H0333: 4, H0050: 4, H0286: 4, H0124: 4, L0770: 4, L0375: 4, H0144: 4, S0027: 4, L0749: 4, L0757: 4, L0759: 4, L0595: 4, H0170: 3, S0360: 3, H0208: 3, H0178: 3, H0012: 3, H0551: 3, H0100: 3, H0494: 3, L0763: 3, L0800: 3, L0641: 3, L0768: 3, L0766: 3, L0804: 3, L0659: 3, L0789: 3, S0126: 3,		

S0037: 3, S0028: 3,
L0740: 3, S0011: 3,
H0624: 2, S0040: 2,
H0295: 2, S0045: 2,
H0645: 2, H0370: 2,
H0427: 2, H0599: 2,
H0544: 2, H0546: 2,
H0594: 2, S0250: 2,
H0428: 2, H0038: 2,
H0623: 2, L0564: 2,
S0210: 2, L0771: 2,
L0662: 2, L0767: 2,
L0776: 2, L0606: 2,
L0783: 2, H0555: 2,
L0741: 2, L0744: 2,
L0605: 2, L0592: 2,
L0593: 2, H0171: 1,
T0049: 1, H0661: 1,
S0420: 1, H0437: 1,
S6022: 1, H0369: 1,
H0550: 1, H0485: 1,
H0486: 1, T0039: 1,
L0021: 1, H0097: 1,
H0309: 1, H0545: 1,
H0009: 1, H0081: 1,
H0620: 1, H0023: 1,
H0057: 1, H0154: 1,
H0014: 1, H0015: 1,
H0083: 1, H0266: 1,
H0188: 1, H0687: 1,
H0288: 1, H0039: 1,

287	HHFBU53	1048855	920940	297	833	1197	1733	Asn-1 to Trp-12, Asp-39 to Thr-49,	Arg-19 to His-25.	H0622: 1, L0483: 1, H0644: 1, H0617: 1, H0673: 1, H0591: 1, H0087: 1, H0268: 1, H0269: 1, H0412: 1, H0056: 1, H0652: 1, L0769: 1, L0373: 1, L0764: 1, L0773: 1, L0521: 1, L0363: 1, L0649: 1, L0377: 1, L0388: 1, L0803: 1, L0775: 1, L0523: 1, L0806: 1, L0805: 1, L0653: 1, L0656: 1, L0558: 1, L0809: 1, L0647: 1, L0664: 1, L0565: 1, H0547: 1, H0435: 1, H0659: 1, H0670: 1, H0672: 1, S0380: 1, S0152: 1, H0704: 1, S3012: 1, S0206: 1, L0786: 1, L0758: 1, H0595: 1, L0589: 1, L0603: 1, H0665: 1, S0242: 1, S0276: 1, H0506: 1 and H0352: 1.	AR061: 4, AR089: 1 H0050: 1, L0748: 1,

							Ser-138 to Ser-144.	L0439: 1 and H0506: 1.			
		837647	834	96 - 1061	1734		Ala-1 to Thr-17, Ser-106 to Ser-112.				
288	HTTDO45	942505	298	327 - 1640	1198		Val-1 to Gly-10, Arg-24 to Asp-36, Leu-225 to Trp-231, Val-249 to Met-258, Glu-262 to Thr-269, Val-279 to Gly-284, Asp-307 to Asn-313, Arg-411 to Lys-416.	AR061: 10, AR089: 3 L0803: 24, S0358: 13, S0360: 7, L0774: 6, L0769: 5, L0794: 5, L0775: 5, L0777: 5, H0510: 4, L0439: 4, L0747: 4, L0731: 4, L0757: 4, L0601: 4, S0026: 4, H0556: 3, H0509: 3, L0662: 3, L0805: 3, L0776: 3, L0581: 3, L0608: 3, H0624: 2, T0002: 2, S0218: 2, S0354: 2, S0007: 2, H0333: 2, H0574: 2, H0599: 2, L0471: 2, H0373: 2, H0188: 2, H0644: 2, H0040: 2, L0761: 2, L0363: 2, L0766: 2, L0651: 2, L0659: 2, L0783: 2, L0789: 2, H0521: 2, S0028: 2, L0744: 2, L0748: 2, L0745: 2, L0749: 2, L0588: 2, L0362: 2, T0049: 1, H0657: 1,	18		

		H0341: 1, H0638: 1, S0444: 1, H0637: 1, H0208: 1, H0441: 1, H0431: 1, H0586: 1, L0623: 1, H0013: 1, S0280: 1, H0575: 1, T0082: 1, H0581: 1, S0049: 1, L0033: 1, H0596: 1, L0040: 1, H0231: 1, S0362: 1, H0355: 1, H0622: 1, T0023: 1, S0366: 1, H0135: 1, H0163: 1, H0591: 1, H0551: 1, T0067: 1, H0059: 1, L0564: 1, S0142: 1, S0344: 1, L0764: 1, L0773: 1, L0768: 1, L0389: 1, L0804: 1, L0376: 1, L0527: 1, L0809: 1, L0665: 1, H0144: 1, H0547: 1, H0519: 1, S0126: 1, H0672: 1, S0330: 1, H0522: 1, H0134: 1, S0037: 1, L0754: 1, L0752: 1, L0755: 1, S0031: 1, H0707: 1, H0667: 1, H0542: 1, H0543: 1 and H0008: 1.					

289	HTPII72	1104236	299	1 - 570	1199	Pro-21 to Asp-26, Asp-74 to Ser-83, Glu-104 to Asn-110, Gln-161 to Cys-167.	AR061: 10, AR089: 5 H0254: 1, H0255: 1, H0393: 1, H0333: 1, H0486: 1, N0009: 1, H0618: 1, H0622: 1 and H0625: 1.			
		958035	835	1 - 828	1735	Pro-21 to Asp-26, Asp-74 to Ser-83, Glu-104 to Asn-110, Gln-161 to Cys-167, Pro-189 to Pro-195.				
290	H6BSE22	1151371	300	147 - 662	1200	Met-4 to Lys-12, Gln-52 to Pro-72, Cys-80 to Gln-92, Thr-100 to Pro-105, Thr-149 to Asn-158, Leu-161 to Lys-172.	AR089: 1, AR061: 0 H0521: 4, L0766: 3, L0768: 2, S0152: 2, S0028: 2, S0308: 2, L0593: 2, S0212: 1, S0282: 1, H0662: 1, H0305: 1, S0358: 1, H0676: 1, H0580: 1, S0046: 1, H0586: 1, H0492: 1, H0013: 1, H0263: 1, H0046: 1, H0355: 1, H0416: 1, S0003: 1, H0591: 1, H0379: 1, T0042: 1, L0774: 1, L0784: 1, L0776: 1, L0789: 1, L0664: 1, H0701: 1, H0520: 1, H0547: 1, H0689: 1, H0690: 1,			

		969019	836	147 - 1577	1736	Met-4 to Lys-12, Gln-52 to Pro-72, Cys-80 to Gln-92, Thr-100 to Pro-105, Thr-149 to Asn-158, Leu-161 to Asn-181, Ala-183 to Ser-191, Lys-295 to Leu-305, Glu-316 to Ser-322, Gly-330 to Met-353, Asp-393 to Tyr-426, Ser-435 to Ala-449, Lys-455 to Asn-463, Leu-466 to Tyr-477.	L0749: 1, S0260: 1, H0668: 1 and H0665: 1.		
291	HDPAE43	1220621	301	3 - 1586	1201	Ser-6 to Glu-13, Asp-35 to Leu-41, Ala-54 to Lys-62, Tyr-121 to Asp-126, Lys-132 to Ala-138, Phe-148 to Glu-157, His-163 to Thr-171, Ser-209 to Ser-220, Phe-234 to His-242, Tyr-261 to Ala-266, Arg-279 to Cys-296, Arg-370 to Glu-376, Ser-391 to Gln-398, Lys-420 to Ile-425,	AR089: 2, AR061: 0 L0794: 5, S0040: 4, H0052: 4, T0010: 4, H0560: 4, S0420: 3, L0455: 3, H0656: 2, S0212: 2, H0619: 2, H0497: 2, H0012: 2, H0429: 2, L0766: 2, H0520: 2, L0439: 2, H0665: 2, H0556: 1, H0650: 1, S0418: 1, H0580: 1, H0550: 1, H0370: 1, H0392: 1, H0333: 1, H0013: 1,		

							Ser-444 to Tyr-466, Gln-489 to Cys-497.	H0635: 1, H0505: 1, H0318: 1, H0581: 1, H0050: 1, H0373: 1, S0250: 1, S0022: 1, H0553: 1, H0124: 1, L0370: 1, H0561: 1, H0593: 1, S0126: 1, H0435: 1, H0518: 1, H0521: 1, H0626: 1, L0748: 1, L0591: 1, H0542: 1, S0424: 1 and H0677: 1.	
		864998	837	2 - 472	1737		Tyr-21 to Asp-26, Lys-32 to Ala-38, Phe-48 to Glu-57, His-63 to Thr-71.		
292	HDPFM16	11193042	302	596 - 1801	1202		Glu-1 to Gly-10, Arg-22 to Lys-27, Pro-99 to Asn-116, Lys-122 to Thr-132, Thr-150 to Asn-159, Ser-187 to Tyr-192, Leu-238 to Cys-252, Glu-272 to Tyr-277, Ile-283 to Met-292, Asp-321 to Ser-328, Lys-365 to Pro-378, Gly-386 to Gln-391.	AR089: 6, AR061: 2 H0457: 3, L0438: 3, L0748: 3, S0214: 2, H0038: 2, L0766: 2, L0731: 2, S0242: 2, H0677: 2, S0134: 1, S0346: 1, H0266: 1, H0644: 1, H0488: 1, S0210: 1, H0529: 1, L0800: 1, L0794: 1, H0521: 1, S3012: 1, L0439: 1, L0749: 1, L0750: 1 and H0423: 1.	
		810401	838	13 - 357	1738		Asp-10 to Lys-18,		

						Ser-26 to Ser-34, Ser-43 to Lys-50.			
293	HFPCN10	1151478	303	81 - 548	1203	Ala-8 to Ser-23, Ser-68 to Gln-81.	AR061: 97, AR089: 57 H0556: 2, L0745: 2, H0542: 2, H0265: 1, S0222: 1 and L0471: 1.		
		915568	839	81 - 551	1739	Ala-8 to Ser-23, Ser-68 to Gln-81.			
294	HLQFO35	1161174	304	747 - 1037	1204	His-32 to His-38.	AR061: 2, AR089: 1 S0412: 27, L0756: 3, H0644: 2, L0745: 2, H0574: 1, H0032: 1, L0598: 1, L0667: 1, L0766: 1, L0653: 1, L0749: 1, L0779: 1, L0759: 1 and S0026: 1.		
		933901	840	80 - 184	1740				
295	HMWFU94	1150834	305	105 - 572	1205	Lys-75 to Asn-83, Leu-114 to Phe-121, Gln-145 to Lys-156.	AR061: 120, AR089: 64 H0341: 1, H0561: 1, L0790: 1 and L0777: 1.		
		705880	841	105 - 443	1741				
296	HSATQ28	1124600	306	138 - 491	1206	Pro-1 to Ser-8, Ser-10 to Ile-31, Ser-39 to Asp-48.	AR089: 120, AR061: 12 S0114: 2, H0422: 2 and L0748: 1.		
		866951	842	3 - 164	1742				
297	HTPIL46	1196787	307	225 - 1898	1207	Ser-14 to Thr-19, Thr-38 to Lys-44.	AR089: 12, AR061: 5 L0748: 14, H0457: 8, L0731: 5, L0770: 4,		

H0521: 4, L0747: 4, H0543: 4, H0486: 3, H0591: 3, H0436: 3, L0777: 3, S0192: 3, H0542: 3, H0422: 3, S0046: 2, S0002: 2, L0667: 2, L0775: 2, L0655: 2, L0439: 2, L0749: 2, L0594: 2, H0170: 1, S0342: 1, S0114: 1, S0134: 1, S0001: 1, H0459: 1, S0222: 1, H0610: 1, H0013: 1, H0635: 1, H0575: 1, H0050: 1, H0271: 1, H0687: 1, S0214: 1, H0622: 1, L0483: 1, H0032: 1, H0038: 1, H0264: 1, H0560: 1, H0641: 1, H0647: 1, L0761: 1, L0771: 1, L0662: 1, L0766: 1, L0803: 1, L0650: 1, L0774: 1, L0805: 1, L0659: 1, L0789: 1, L0790: 1, H0699: 1, H0547: 1, S0152: 1, L0757: 1, H0445: 1, S0308: 1, L0601: 1, S0011: 1 and S0242: 1.

		973570	843	2 - 2218	1743	Gln-4 to Cys-9, Asp-23 to Pro-35, Leu-54 to Ile-59, Asn-61 to Asp-67, Val-93 to Lys-101, Gly-108 to Glu-136, Ser-145 to Thr-157, Thr-176 to Gln-186, Thr-194 to His-200, Lys-208 to Ser-215, Val-261 to Phe-267, Thr-297 to Arg-305, Lys-320 to Arg-327, Asn-336 to Asn-342, Glu-356 to Glu-365, Lys-375 to Tyr-385, Pro-407 to Val-413, Ser-417 to Leu-423, Thr-459 to Glu-467, Glu-503 to Val-508, Leu-564 to Cys-571, Glu-581 to Asp-590, Pro-611 to Val-621, Lys-625 to Gly-635, Asp-676 to Phe-684, Leu-709 to Cys-717.			
298	HNGEN37	1103305	308	1 - 531	1208	Asn-10 to Arg-15, Asn-22 to Leu-27, Arg-90 to Lys-95.	AR089: 1, AR061: 0 S0052: 2		
		663955	844	2 - 259	1744	Asn-9 to Arg-14,			

299	HLMDO77	974855	309	32 - 547	1209		AR061: 6, AR089: 6, AR051: 3, AR050: 2, AR054: 1				
		974856	845	403 - 215	1745	Gly-1 to Cys-9, Pro-12 to Pro-36.					
300	HNKAZ51	1154961	310	31 - 957	1210	Arg-11 to Arg-18, Gln-96 to Gln-102, Gln-121 to Gln-128, Gly-208 to Gln-216, Pro-231 to Ile-238.	AR050: 2, AR061: 1, AR089: 0, AR054: 0, AR051: 0 L0015: 1 and S0330: 1.				
		947067	846	31 - 612	1746	Arg-11 to Arg-18, Gln-96 to Gln-102, Gln-121 to Gln-128.					
301	HOGDR01	919899	311	3 - 977	1211	Cys-49 to Leu-55, Glu-62 to Glu-68, Phe-100 to Lys-106, Pro-122 to Gln-127, Leu-219 to Gly-225, Gly-273 to Gly-281.	AR054: 7, AR089: 2, AR061: 2, AR051: 1, AR050: 0 L0662: 3, L0653: 3, L0648: 2, L0659: 2, L0666: 2, H0435: 2, S0376: 1, H0550: 1, H0264: 1, S0472: 1, L0800: 1, L0643: 1, L0649: 1, L0803: 1, L0790: 1, H0672: 1, S0328: 1, L0779: 1 and S0260: 1.				
		947085	847	2 - 967	1747	Cys-46 to Leu-52, Glu-59 to Glu-65.					

302	HUKEP18	957456	312	852 - 265	1212		AR061: 14, AR054: 11, AR050: 9, AR089: 4 L0758: 2, H0059: 1, L0789: 1, L0665: 1, L0749: 1 and L0779: 1.		
303	HWHGF95	1155021	313	3 - 743	1213	Glu-25 to Trp-33, Trp-76 to Gln-83, Pro-94 to Asp-108.	AR050: 3, AR061: 2, AR054: 2, AR089: 1, AR051: 0 H0586: 1 and L0376: 1.		
		947019	848	2 - 742	1748	Glu-25 to Trp-33, Trp-76 to Gln-83, Pro-94 to Asp-108.			
304	HEMFC61	836514	314	1 - 714	1214	Glu-4 to Ser-9, Ser-58 to Arg-65.	AR061: 4, AR089: 3 H0038: 7, L0758: 5, H0616: 4, L0731: 4, S0002: 3, L0637: 3, H0623: 2, L0794: 2, L0809: 2, L0663: 2, H0522: 2, L0779: 2, L0777: 2, S0046: 1, H0431: 1, T0060: 1, H0013: 1, S0010: 1, H0545: 1, H0050: 1, S0023: 1, S0003: 1, H0328: 1, H0135: 1, H0163: 1, H0412: 1, H0102: 1, H0100: 1, T0042: 1, L0768: 1,		

								L0803: 1, L0375: 1, L0542: 1, L0647: 1, L0367: 1, L0791: 1, L0664: 1, H0693: 1, S0328: 1, S0168: 1, S0031: 1 and H0008: 1.			
305	HEOQP44	942596	315	157 - 1026	1215	Phe-62 to Arg-67, Gln-92 to Leu-104, Arg-163 to Leu-171, Ile-175 to Thr-182, Ser-237 to Ser-244, Ala-270 to Arg-277.	AR089: 1, AR061: 0 H0457: 2				
306	HHEKZ12	878267	316	9 - 395	1216	Phe-62 to Arg-67, Gln-92 to Leu-104.	AR089: 1, AR061: 0 H0542: 1				
307	HHELA35	878217	317	25 - 462	1217	Phe-62 to Arg-67, Gln-92 to Leu-104.	AR089: 1, AR061: 0 H0542: 1				
308	HSYBQ34	918789	318	96 - 1	1218		AR054: 22, AR050: 2, AR051: 1, AR089: 0, AR061: 0 H0624: 2, S0003: 2, H0519: 2, L0591: 2, H0171: 1, H0583: 1, S0418: 1, S0046: 1, H0619: 1, H0437: 1, H0497: 1, H0036: 1, H0590: 1, H0188: 1, H0039: 1, H0551: 1, H0623: 1, H0529: 1, H0520: 1, H0521: 1, H0522: 1, L0745: 1,				

								L0756: 1 and H0595: 1.			
		972295	849	2604 - 3473	1749	Phe-62 to Arg-67, Gln-92 to Leu-104.					
309	HFCBA44	948533	319	192 - 494	1219			AR089: 14, AR061: 9 H0457: 1, H0009: 1, L0666: 1, S0053: 1 and L0741: 1.			
310	HOUBE50	948519	320	1 - 243	1220	Ser-50 to Ser-66.		AR061: 1, AR089: 0 S0040: 1, S0222: 1, L0471: 1 and L0517: 1.			
311	HDPAS16	734057	321	1 - 495	1221	Glu-38 to His-43, Arg-58 to Thr-68.		AR089: 1, AR061: 0 L0803: 6, H0046: 4, L0666: 3, H0521: 3, L0731: 3, H0331: 2, H0574: 2, L0794: 2, L0774: 2, L0747: 2, H0686: 1, H0341: 1, H0545: 1, H0375: 1, H0687: 1, H0428: 1, L0455: 1, H0316: 1, S0036: 1, S0386: 1, S0002: 1, L0369: 1, L0642: 1, L0662: 1, L0364: 1, L0804: 1, L0776: 1, L0655: 1, L0659: 1, L0809: 1, L0663: 1, L0665: 1, H0670: 1, H0478: 1, L0749: 1, L0756: 1, L0752: 1, L0758: 1,			

							H0343: 1, L0608: 1, L0366: 1, S0192: 1, H0543: 1 and H0423: 1.		
312	HFLAA23	960332	322	2 - 784	1222		AR061: 106, AR089: 12 H0047: 2, H0181: 2 and S0260: 1.		
313	HCFMZ90	922112	323	273 - 881	1223	Asp-1 to Arg-8, Lys-15 to Asn-20, Thr-74 to Leu-80, Pro-84 to Asp-90.	AR061: 2, AR089: 1 L0749: 1, L0731: 1, L0757: 1 and H0423: 1.		
314	HFCES27	1103330	324	491 - 1120	1224	Thr-7 to Leu-13, Pro-17 to Asp-23, Ala-180 to Arg-188.	AR061: 1, AR089: 1 S0045: 2, L0646: 2, L0766: 2, L0776: 2, L0783: 2, L0731: 2, H0341: 1, H0663: 1, T0039: 1, L0021: 1, H0009: 1, T0042: 1, L0763: 1, L0764: 1, L0649: 1, L0775: 1, L0661: 1, S0328: 1, L0777: 1, L0757: 1, L0758: 1 and H0444: 1.		
		922115	850	372 - 1001	1750	Thr-7 to Leu-13, Pro-17 to Asp-23, Ala-180 to Arg-188.			
315	HSDFK78	1155464	325	1 - 306	1225	Tyr-5 to Thr-14, His-61 to Asn-70.	AR089: 6, AR061: 4 H0266: 1, H0416: 1 and S0031: 1.		
		582754	851	3 - 374	1751	Tyr-6 to Thr-13,			

						His-60 to Asn-69.			
316	HSDJX58	891067	326	729 - 1487	1226	Tyr-101 to Glu-108, Pro-110 to Arg-116, Tyr-158 to Gln-164.	AR054: 11, AR050: 3, AR051: 3, AR089: 2, AR061: 2 L0748: 7, H0171: 2, H0624: 1, H0341: 1, S0280: 1, H0271: 1, H0032: 1, L0367: 1, L0439: 1, S0031: 1 and S0260: 1.		
		956591	852	786 - 7	1752	Tyr-101 to Glu-108, Pro-110 to Arg-116, Tyr-158 to Gln-164.			
317	HSLHV27	1105339	327	31 - 993	1227	His-8 to Gly-18.	AR050: 5, AR061: 2, AR054: 1, AR089: 1 S0028: 1		
		964075	853	983 - 21	1753	His-8 to Gly-18.			
318	HNGFU12	1128272	328	1 - 399	1228		AR089: 4, AR061: 1 S0052: 1 and S0428: 1.		
		971170	854	45 - 290	1754				
319	HWLKA89	1105515	329	954 - 562	1229	Leu-59 to Gln-64.	AR089: 2, AR061: 0 S0358: 1, S0370: 1, L0803: 1, S0374: 1 and S0152: 1.		
		735158	855	1 - 318	1755				
320	HLWBU48	1162653	330	739 - 1191	1230	Lys-1 to Ile-6, Pro-28 to Glu-37, Leu-58 to Arg-65, Pro-95 to Glu-102, Arg-104 to Gly-111,	AR089: 8, AR061: 5 L0754: 3, H0553: 2, L0731: 2, L0005: 1, H0581: 1, H0271: 1, H0644: 1 and H0521: 1.		

							Glu-118 to Glu-123, Glu-125 to Ala-130, Gly-142 to Gly-151.				
		721520	856	2 - 280	1756		Ile-5 to Pro-10, Lys-36 to Thr-41.				
321	HWWEY71	1204720	331	496 - 1623	1231		Pro-17 to His-24, Pro-26 to Asp-33, Pro-66 to Lys-72, Thr-149 to Arg-158, Asp-172 to Glu-178, Ala-279 to Ser-289, Arg-306 to Arg-314, Val-330 to Lys-336, Asp-347 to Arg-353, Arg-358 to Gln-363.	AR089: 1, AR061: 0 H0556: 24, H0521: 12, H0551: 9, H0265: 8, H0692: 8, H0543: 8, S0418: 7, L0748: 7, H0542: 7, H0318: 6, H0560: 6, S3014: 6, H0445: 6, L0665: 5, L0747: 5, H0423: 5, H0341: 4, H0617: 4, L0769: 4, L0439: 4, L0740: 4, L0750: 4, L0595: 4, S0278: 3, H0052: 3, H0622: 3, H0135: 3, H0040: 3, S0144: 3, L0768: 3, L0766: 3, L0775: 3, L0776: 3, H0547: 3, S0328: 3, S0206: 3, L0591: 3, L0608: 3, H0422: 3, H0170: 2, H0657: 2, H0484: 2, S0045: 2, S0046: 2, H0545: 2, H0050: 2, H0012: 2, H0620: 2,		

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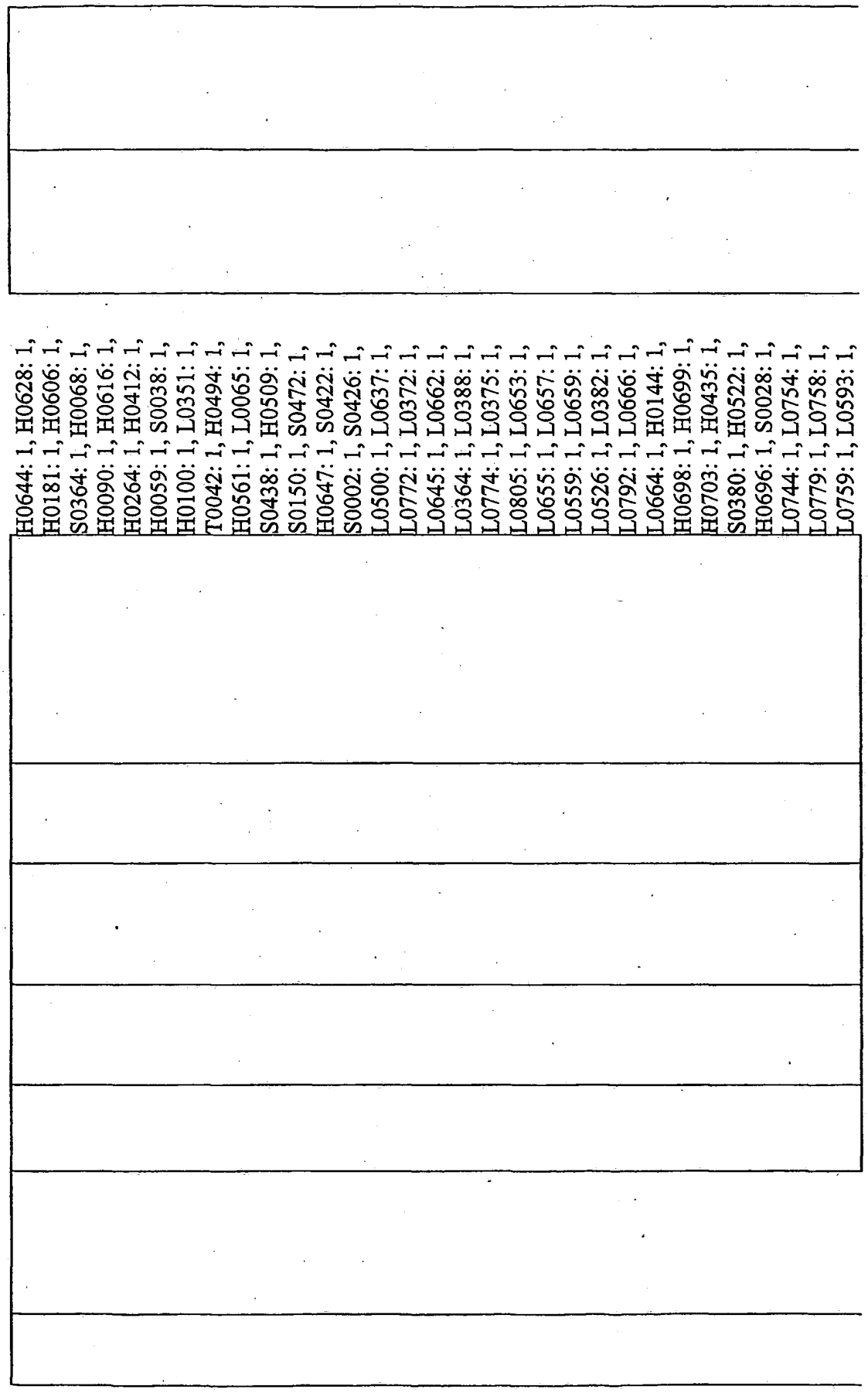
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		970546	857	71 - 775	1757	Ala-46 to Pro-68, Gln-75 to Gly-84, Leu-106 to Gly-121, Pro-208 to Lys-214.			
322	HHFGD45	1151161	332	260 - 913	1232	Phe-3 to Cys-8, Ser-64 to Gln-69.	AR061: 2, AR089: 1 S0053: 2, S0045: 1, H0619: 1, H0318: 1 and H0050: 1.		
		584855	858	1 - 267	1758				
323	HNHEB44	1161293	333	643 - 2	1233	Phe-3 to Cys-8, Ser-64 to Gln-69.	AR061: 1, AR089: 0 S0053: 2, S0045: 1, H0619: 1, H0318: 1 and H0050: 1.		
		683284	859	1 - 195	1759	His-27 to Thr-32.			
324	HMACX92	1151497	334	119 - 1138	1234	Glu-140 to Trp-147, Asn-323 to Glu-329.	AR061: 5, AR089: 2 S0144: 4, L0803: 2, H0682: 2, H0521: 2, H0295: 1, L0005: 1, H0645: 1, H0549: 1, T0060: 1, H0327: 1, H0545: 1, H0050: 1, H0012: 1, H0620: 1, H0510: 1, H0687: 1, H0617: 1, H0059: 1, H0509: 1, H0641: 1, S0002: 1, L0646: 1, L0374: 1, L0794: 1,		

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		922250	860	140 - 1159	1760				
325	HNTBW57	1193070	335	1 - 1263	1235	Pro-1 to Gly-18, Arg-29 to Pro-42, Glu-80 to Arg-86, Gly-239 to Pro-247, Pro-410 to Thr-419.	AR089: 0, AR061: 0 L0794: 4, H0435: 2, H0632: 1, H0013: 1, H0030: 1, S0150: 1, L0649: 1, H0547: 1, H0519: 1, H0689: 1, L0759: 1 and H0677: 1.		
		867327	861	2 - 682	1761				
326	HBSDC13	1105677	336	486 - 94	1236		AR089: 8, AR061: 4 H0305: 4, H0419: 1 and S0045: 1.		
		657402	862	3 - 233	1762				
327	HCWBX21	920486	337	49 - 333	1237	Glu-52 to Gly-57, Cys-69 to Asp-83, Lys-88 to Met-93.	AR061: 1, AR089: 0 H0305: 4, H0419: 1 and S0045: 1.		
328	HFRBW72	916944	338	365 - 679	1238	Arg-10 to Lys-16.	AR061: 3, AR089: 1 S0028: 5, S0126: 2, S0001: 1, S0282: 1, S0045: 1, S0049: 1, S0050: 1, H0271: 1, H0388: 1, S0390: 1, S0260: 1 and H0008: 1.		
329	HSLJX23	1105530	339	2 - 496	1239	Met-12 to Gly-17.	AR089: 1, AR061: 0		

							S0390: 1 and S0031: 1.		
		837470	863	2 - 256	1763				
330	HSLJX90	1105297	340	1 - 438	1240	Glu-29 to Asp-35, Glu-113 to Leu-120, Ala-123 to Gly-133, Ala-138 to Lys-143.	AR089: 1, AR061: 0 H0150: 1, S0390: 1 and S0027: 1.		
		787575	864	2 - 358	1764	Arg-21 to Glu-27.			
331	HAUAI67	1102604	341	107 - 727	1241	Arg-13 to Arg-19, Asp-37 to Asp-43, Glu-127 to Asp-132, Asn-152 to Glu-171, Ala-179 to Ala-193.	AR061: 4, AR089: 2 L0748: 18, L0749: 8, L0755: 7, H0686: 4, S0360: 3, H0519: 3, H0659: 3, L0747: 3, L0758: 3, H0341: 2, H0622: 2, H0040: 2, H0616: 2, L0772: 2, L0375: 2, L0754: 2, L0779: 2, H0542: 2, H0294: 1, H0657: 1, H0656: 1, S0116: 1, H0663: 1, H0638: 1, S0376: 1, H0393: 1, H0083: 1, H0030: 1, L0055: 1, H0068: 1, H0591: 1, H0038: 1, H0412: 1, H0100: 1, L0475: 1, S0422: 1, L0763: 1, L0771: 1, L0767: 1, L0768: 1, L0784: 1, L0776: 1, L0633: 1, L0783: 1,		

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332	HDPTA89	953718	342	20 - 433	1242	Gly-22 to Phe-27, Tyr-36 to Ala-48, Glu-51 to Pro-79, Pro-102 to His-113.	AR089: 1, AR061: 1 L0777: 13, L0751: 10, L0769: 7, L0766: 6, L0758: 6, H0618: 4, H0617: 4, L0771: 4, L0776: 4, L0757: 4, L0759: 4, H0494: 3, L0761: 3, H0521: 3, L0754: 3, H0265: 2, H0650: 2, S0045: 2, H0427: 2, H0253: 2, H0318: 2, H0150: 2, L0794: 2, L0805: 2, L0665: 2, L0743: 2, L0439: 2, L0749: 2, L0750: 2, L0752: 2, H0445: 2, H0556: 1, S0342: 1, S0218: 1, L0785: 1, H0484: 1, L0481: 1, S0418: 1, S0420: 1, H0637: 1, H0549: 1, H0587: 1, H0333: 1, H0486: 1,		

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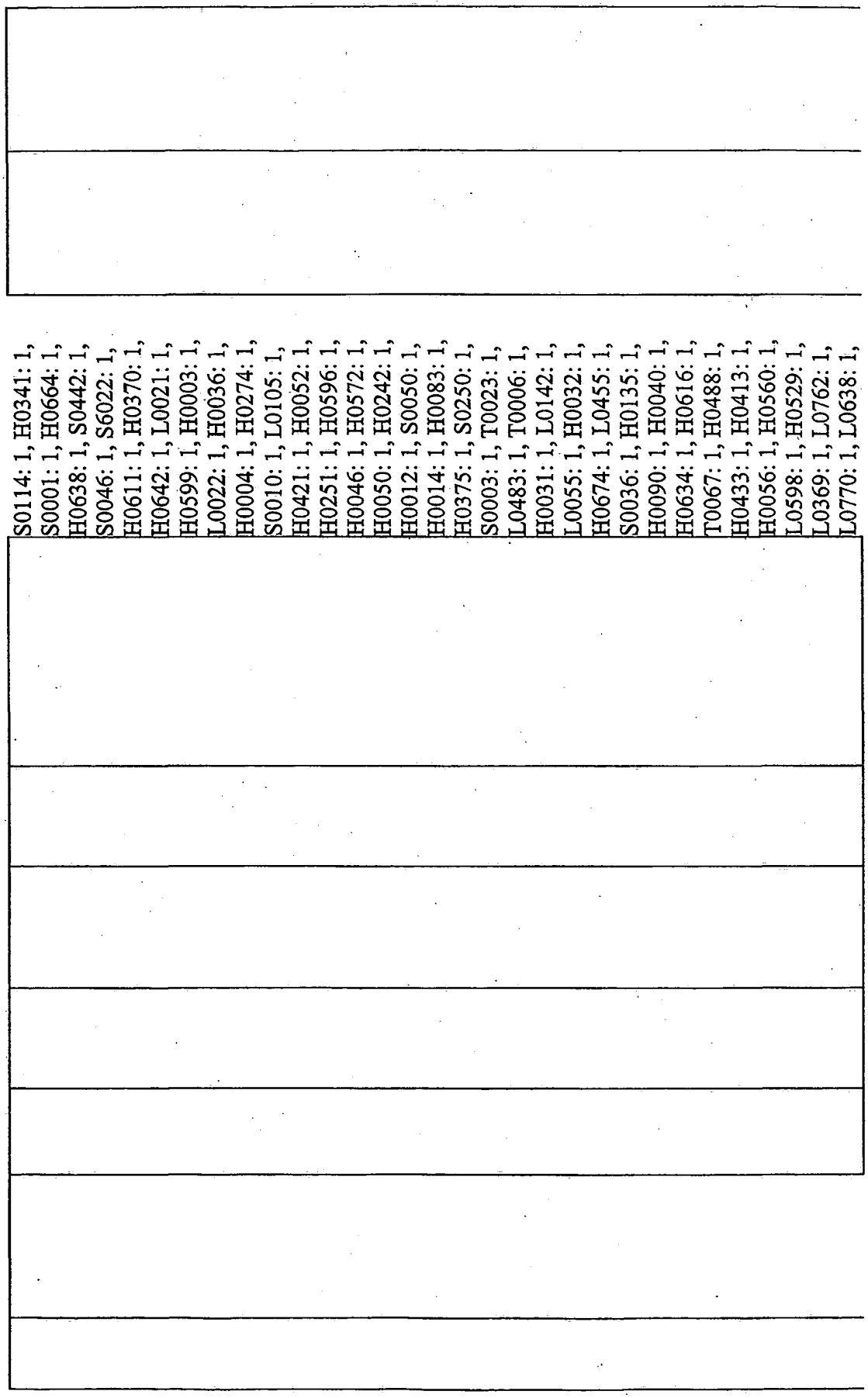
333	HMCBN45	927125	343	3 - 686	1243	Lys-50 to Gly-56, Pro-114 to Gly-122, Glu-129 to Tyr-134, Ala-174 to Leu-179, Arg-210 to Tyr-222.	AR089: 9, AR061: 8 T0042: 2, H0556: 1, H0486: 1, L0586: 1, H0083: 1, H0641: 1, S0142: 1, H0529: 1 and H0435: 1.		

334	HTTJY18	1223495	344	352 - 1281	1244	Ala-7 to His-20, Arg-38 to Gly-48, His-89 to Trp-98, Thr-125 to Arg-130, Ala-133 to Cys-140, Ser-157 to Leu-171, Asp-201 to Ile-206, Gln-231 to Lys-238, Thr-240 to Thr-259, Gly-266 to Gly-277.	AR089: 1, AR061: 0 L0766: 50, L0754: 12, L0740: 11, S0358: 9, L0803: 8, H0575: 7, L0731: 7, L0747: 6, L0761: 5, L0662: 5, L0805: 5, L0744: 5, L0748: 5, L0779: 5, L0794: 4, L0749: 4, L0750: 4, L0752: 4, L0757: 4, L0362: 4, L0471: 3, S0210: 3, L0806: 3, H0144: 3, S0126: 3, S0328: 3, L0743: 3, L0777: 3, L0759: 3, H0423: 3, S0376: 2, H0013: 2, S0474: 2, H0581: 2, H0179: 2, H0628: 2, H0038: 2, H0264: 2, H0623: 2, H0641: 2, S0142: 2, S0426: 2, L0800: 2, L0771: 2, L0768: 2, L0649: 2, L0774: 2, L0655: 2, L0607: 2, L0791: 2, S0374: 2, L0438: 2, H0436: 2, L0745: 2, L0746: 2, L0756: 2, L0753: 2, L0755: 2, S0026: 2, H0170: 1,		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		950989	866	238 - 1263	1766	Asp-1 to Pro-17.			
335	HMAJL09	1157337	345	68 - 526	1245	Tyr-22 to Arg-30, Arg-77 to Gly-83.	AR089: 0, AR061: 0 S0278: 1		
		950168	867	2 - 493	1767	Tyr-30 to Ser-35, Arg-94 to Gly-100.			
336	HSVCH37	558195	346	3 - 122	1246		AR089: 1, AR061: 1 H0309: 2	4q25-q27	137600, 147680, 189800, 217030, 248510, 600919, 601542
337	HTOCG37	708888	347	3 - 218	1247	Asn-7 to Thr-18,	AR061: 11, AR089: 6		

					Glu-34 to Ser-39, His-59 to Asn-64.	L0777: 4, L0766: 3, L0776: 3, L0439: 3, H0031: 2, L0809: 2, H0694: 2, L0591: 2, S6024: 1, H0656: 1, H0369: 1, H0051: 1, T0067: 1, H0272: 1, L0769: 1, L0805: 1, L0518: 1, L0519: 1, H0684: 1, L0779: 1, S0031: 1, L0584: 1 and L0366: 1.		
338	HBXAW47	771624	348	243 - 656	1248	His-8 to Arg-13, Ser-23 to Lys-30.	AR089: 5, AR061: 1 L0748: 5, L0438: 3, L0747: 3, L0731: 3, L0005: 2, S0360: 2, L0769: 2, L0794: 2, L0766: 2, L0803: 2, L0655: 2, L0756: 2, L0758: 2, S0356: 1, L0717: 1, H0033: 1, H0617: 1, H0413: 1, S0038: 1, S0422: 1, S0426: 1, L0639: 1, L0646: 1, L0662: 1, L0378: 1, L0636: 1, L0647: 1, L0367: 1, L0789: 1, L0666: 1, H0436: 1, L0779: 1, L0777: 1, L0752: 1,		

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339	HBXAW27	909801	349	1111 - 1830	1249	Gly-19 to Cys-25, Pro-56 to Phe-68, Gly-94 to Pro-99, Lys-113 to Leu-119, Pro-126 to Gln-131, Lys-138 to Leu-145.	AR089: 2, AR061: 1 L0741: 10, H0052: 6, S0036: 3, L0439: 3, S0388: 2, L0770: 2, L0438: 2, S0300: 1, S0222: 1, H0441: 1, L0021: 1, S0010: 1, S0049: 1, H0327: 1, H0150: 1, H0009: 1, H0569: 1, H0051: 1, S0051: 1, T0010: 1, L0456: 1, S0038: 1, H0100: 1, L0370: 1, L0517: 1, L0742: 1, L0745: 1, L0592: 1 and L0366: 1.	12q13	107777, 123940, 139350, 139350, 148040, 148041, 148043, 148070, 231550, 600194, 600231, 600536, 600808, 600956, 601284, 601769, 601769, 601928, 602116, 602153
340	HSLJE54	926924	350	3 - 731	1250	Arg-1 to Gly-7, Pro-25 to His-34, Leu-36 to Lys-49.	AR061: 0, AR089: 0 S0036: 1, H0521: 1, H0436: 1 and S0390: 1.		
341	HBXBG65	932780	351	2 - 535	1251	Asn-1 to Arg-10, Pro-105 to Val-114, Gln-130 to Glu-140.	AR089: 1, AR061: 0 H0144: 2, S0038: 1 and L0439: 1.	14q32.1	107280, 107280, 107400, 107400, 122500,

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342	HE8CG83	933609	352	703 - 1128	1252		AR089: 17, AR061: 8 L0748: 3, H0650: 1, S0007: 1, H0013: 1, H0618: 1, H0051: 1, S0051: 1, H0553: 1, H0268: 1 and S0031: 1.		
343	HOGCW55	953161	353	90 - 392	1253		AR061: 1, AR089: 1 H0620: 3 and H0435: 1.		
344	HNTND64	954871	354	1 - 264	1254	Gln-34 to Glu-42.	AR089: 8, AR061: 5 S0040: 1, H0083: 1 and H0520: 1.		
345	HHAWC08	957942	355	172 - 1047	1255	Pro-14 to Gly-32, Pro-73 to Glu-83, Phe-92 to Ser-100, Glu-141 to Asp-148, Thr-159 to Gln-166, Asp-198 to Pro-204, Thr-242 to Val-248.	AR061: 0, AR089: 0 H0052: 2, L0439: 2, S0418: 1, H0619: 1, S0280: 1 and L0438: 1.		
346	HFPEN04	964824	356	88 - 540	1256	Glu-62 to Tyr-67, Ser-129 to Asp-135.	AR061: 5, AR089: 2 S0010: 4, S0222: 3, H0455: 2, L0803: 2, L0439: 2, L0745: 2, S0282: 1, S0400: 1, H0456: 1, H0441: 1, S0346: 1, H0509: 1, L0769: 1, L0438: 1,		

							L0756: 1 and S0106: 1.		
347	HTZMB51	496523	357	58 - 399	1257	Cys-1 to Asp-10, Thr-16 to Asn-22.	AR089: 1, AR061: 1 S0045: 1, H0623: 1 and S3020: 1.		
348	HNHDK43	529500	358	1 - 396	1258	Thr-7 to Gly-13.	S0053: 1 and S0037: 1.		
349	HTTDP32	558751	359	1 - 360	1259	Asn-21 to Asn-31.	AR061: 4, AR089: 3 L0789: 2, H0069: 1, H0052: 1, H0266: 1, H0040: 1, S0210: 1 and H0519: 1.	3p22-p21.3	116806, 120120, 120120, 120120, 120436, 120436, 120436, 138320, 168468, 182280, 190182, 190182, 227646, 261510, 600163, 601154
350	HSLEP27	572920	360	478 - 2	1260	Phe-44 to Arg-49.	AR089: 1, AR061: 0 S0126: 4, S0028: 2 and S0031: 2.		
351	HMTAL73	621705	361	73 - 450	1261	Val-99 to Gly-106.	AR089: 2, AR061: 2 H0518: 1 and L0362: 1.	20p13	192340, 234200
352	HMHBQ53	715301	362	404 - 201	1262	Asp-22 to Gly-34, Lys-37 to Glu-42.	AR089: 39, AR061: 13 L0745: 8, L0740: 6, L0747: 5, L0794: 4,		

		L0666: 4, S0360: 3, H0150: 3, H0031: 3, H0617: 3, L0769: 3, H0662: 2, S0182: 2, H0286: 2, H0135: 2, L0770: 2, L0662: 2, L0803: 2, H0547: 2, L0743: 2, L0752: 2, L0753: 2, L0731: 2, L0758: 2, L0593: 2, H0556: 1, S0342: 1, H0341: 1, S0212: 1, H0671: 1, S0418: 1, S0420: 1, S0358: 1, H0392: 1, H0587: 1, H0575: 1, H0253: 1, H0318: 1, H0052: 1, H0545: 1, H0046: 1, H0050: 1, H0408: 1, H0510: 1, H0375: 1, H0099: 1, H0247: 1, H0687: 1, H0628: 1, H0551: 1, H0509: 1, S0344: 1, S0210: 1, L0761: 1, L0772: 1, L0646: 1, L0643: 1, L0764: 1, L0364: 1, L0774: 1, L0653: 1, L0655: 1, L0636: 1, L0783: 1, L0809: 1, H0144: 1, L0438: 1,					

						H0593: 1, S0330: 1, H0518: 1, L0748: 1, L0439: 1, L0751: 1, L0754: 1, L0749: 1, L0757: 1, L0759: 1, H0653: 1, H0542: 1 and H0423: 1.		
353	HBICG44	715860	363	377 - 138	1263	AR061: 22, AR089: 5 L0803: 23, S0360: 7, S0358: 6, L0794: 5, L0777: 5, H0510: 4, L0439: 4, L0731: 4, L0757: 4, S0026: 4, H0509: 3, L0662: 3, L0805: 3, L0608: 3, H0624: 2, T0002: 2, S0218: 2, S0007: 2, H0333: 2, H0574: 2, L0471: 2, H0373: 2, H0188: 2, H0644: 2, L0363: 2, L0766: 2, L0774: 2, L0651: 2, L0776: 2, L0659: 2, L0789: 2, H0521: 2, L0748: 2, L0745: 2, L0747: 2, L0749: 2, L0581: 2, L0362: 2, L0601: 2, H0556: 1, T0049: 1, H0657: 1, H0638: 1, S0354: 1,	18	

						S0444: 1, H0637: 1, H0208: 1, H0441: 1, H0431: 1, H0586: 1, L0623: 1, S0280: 1, H0575: 1, T0082: 1, H0581: 1, S0049: 1, L0033: 1, H0596: 1, L0040: 1, H0231: 1, H0355: 1, H0622: 1, T0023: 1, S0366: 1, H0163: 1, H0040: 1, H0551: 1, T0067: 1, L0564: 1, L0764: 1, L0389: 1, L0804: 1, L0775: 1, L0376: 1, L0527: 1, L0783: 1, L0809: 1, L0665: 1, H0144: 1, H0672: 1, S0330: 1, H0522: 1, H0134: 1, S0028: 1, L0744: 1, L0754: 1, L0755: 1, S0031: 1, L0588: 1, H0543: 1 and H0008: 1.		
				1264	Glu-30 to Glu-38, Asn-47 to Tyr-58.	AR089: 1, AR061: 1 L0439: 4, L0770: 2, L0794: 2, L0438: 2, L0740: 2, H0599: 1, T0082: 1, S0003: 1, H0644: 1, L0639: 1,		
				3 - 356				
				364				
				753717				
				HSKXN70				
				354				

							S3014: 1, S0028: 1, S0206: 1, L0756: 1, L0779: 1 and L0752: 1.		
355	HPIAC32	815942	365	3 - 371	1265		AR089: 1, AR061: 0 S0028: 2, H0624: 1, S0278: 1, S0150: 1 and H0689: 1.		
356	HHFFP57	835955	366	128 - 688	1266		AR061: 4, AR089: 4		
357	HFKJW01	836491	367	3 - 440	1267		AR089: 1, AR061: 0 H0620: 2, H0012: 1, S0152: 1 and S0260: 1.		
358	HSDFL63	836498	368	1 - 249	1268	Glu-1 to Asp-7, Met-53 to Met-60, Ile-78 to Ser-83.	AR061: 402, AR089: 142 H0038: 7, L0758: 5, H0616: 4, L0731: 4, S0002: 3, L0637: 3, H0623: 2, L0794: 2, L0809: 2, L0663: 2, H0522: 2, L0779: 2, L0777: 2, S0046: 1, H0431: 1, T0060: 1, H0013: 1, S0010: 1, H0545: 1, H0050: 1, S0023: 1, S0003: 1, H0328: 1, H0135: 1, H0163: 1, H0412: 1, H0102: 1, H0100: 1, T0042: 1, L0768: 1, L0803: 1, L0375: 1,		

								L0542: 1, L0647: 1, L0367: 1, L0791: 1, L0664: 1, H0693: 1, S0328: 1, S0168: 1, S0031: 1 and H0008: 1.		
359	HLDOO08	857070	369	3 - 449	1269	Phe-13 to Lys-19, Gln-21 to Ser-37, Arg-44 to Tyr-60, Cys-84 to Asn-89, Thr-122 to Thr-128.		AR089: 3, AR061: 3 H0333: 1 and H0510: 1.		
360	HMSHN43	867363	370	49 - 375	1270	Pro-16 to Arg-23.		AR061: 7, AR089: 4 S0354: 2, S0212: 1, H0484: 1, H0402: 1, S0358: 1, H0457: 1, H0213: 1, H0634: 1, H0059: 1, H0494: 1, S0002: 1, L0648: 1, L0438: 1, H0521: 1 and L0751: 1.		
361	HBXCT92	871044	371	3 - 1451	1271	Pro-18 to Trp-25, Arg-164 to Ser-169, Pro-174 to Gln-185, Lys-220 to Phe-226, Ser-272 to Lys-290, Cys-316 to Val-329, Glu-431 to Gln-436, Ile-463 to Val-470.		AR089: 1, AR061: 1 H0544: 4, L0438: 4, L0439: 3, L0747: 3, S0036: 2, L0794: 2, H0539: 2, L0748: 2, L0485: 2, S0424: 2, S0116: 1, S0360: 1, S0046: 1, H0411: 1, H0261: 1, H0455: 1, H0574: 1, H0632: 1, L0021: 1, H0575: 1,		

						H0618: 1, H0052: 1, H0251: 1, H0309: 1, H0327: 1, S0050: 1, S6028: 1, L0456: 1, S0038: 1, H0494: 1, L0520: 1, L0764: 1, L0375: 1, L0657: 1, L0528: 1, H0660: 1, S0044: 1, S0028: 1, L0758: 1, L0759: 1, L0596: 1, L0592: 1, S0011: 1 and S0192: 1.			
362	H6EDP44	875744	372	157 - 876	1272		AR061: 6, AR089: 2			
363	HLJBF94	875745	373	153 - 668	1273	Arg-1 to Trp-9, Ala-25 to Ser-30.	AR089: 4, AR061: 4 H0265: 3, H0592: 2, H0494: 2, L0761: 2, L0374: 2, L0804: 2, H0519: 2, H0593: 2, H0556: 1, H0657: 1, H0656: 1, H0662: 1, S0358: 1, S0376: 1, H0437: 1, H0253: 1, H0375: 1, H0059: 1, L0646: 1, L0768: 1, L0766: 1, L0803: 1, L0774: 1, L0775: 1, L0658: 1, L0809: 1, L0666: 1, H0520: 1, H0539: 1, S0027: 1 and			

							H0543: 1.		
364	HTEHO28	877182	374	1286 - 438	1274	Ser-14 to Gln-19.	AR061: 7, AR089: 4 T0039: 1, H0123: 1, H0038: 1, H0040: 1, T0042: 1, S0126: 1, H0631: 1, L0596: 1 and H0506: 1.		
365	HE9PC30	880696	375	1 - 390	1275	Arg-2 to Lys-28, Lys-43 to His-48, Arg-66 to Gly-76, His-117 to Cys-130.	AR089: 2, AR061: 2 L0766: 17, H0038: 2, L0794: 2, L0803: 2, H0144: 2, L0362: 2, S0114: 1, H0013: 1, H0575: 1, H0596: 1, H0046: 1, L0471: 1, S0250: 1, L0142: 1, H0628: 1, H0032: 1, H0135: 1, H0634: 1, H0616: 1, H0413: 1, H0056: 1, S0142: 1, L0598: 1, L0774: 1, L0789: 1, L0790: 1, L0791: 1, S0126: 1, H0478: 1, S0028: 1, L0743: 1, L0744: 1, L0754: 1, L0745: 1, L0746: 1, L0747: 1, L0750: 1, L0752: 1, L0731: 1 and L0757: 1.		
366	HLMDN29	881288	376	3 - 509	1276	Glu-15 to Glu-26, Thr-60 to Ile-66,	AR061: 5, AR089: 2 H0254: 1, H0255: 1,		

367	HWBCF78	911355	377	1 - 330	1277	Gly-82 to Tyr-88.	H0705: 1 and H0412: 1.		
						Pro-1 to Gly-9, Pro-11 to Gly-18, Asp-35 to Arg-55.	AR089: 1, AR061: 1 H0457: 12, H0521: 11, H0179: 6, H0402: 5, H0271: 3, H0581: 2, H0188: 2, S0002: 2, S0053: 2, H0522: 2, H0436: 2, H0254: 1, H0255: 1, H0306: 1, H0638: 1, H0637: 1, H0580: 1, H0619: 1, S0278: 1, H0587: 1, H0486: 1, S0049: 1, H0050: 1, H0510: 1, H0252: 1, H0553: 1, H0606: 1, S0142: 1, S0344: 1, H0529: 1, L0763: 1, L0770: 1, L0667: 1, L0767: 1, L0794: 1, L0774: 1, L0653: 1, L0659: 1, L0788: 1, S0052: 1, S0330: 1, H0555: 1, S0308: 1, L0592: 1, H0667: 1 and S0424: 1.		
368	HUKEN49	911465	378	92 - 340	1278	Pro-11 to Glu-17.	AR061: 1, AR089: 1 L0758: 19, L0777: 16, L0750: 14, L0747: 13, L0748: 10, H0692: 9, L0775: 6, L0749: 6,		

L0766: 5, L0774: 5, L0740: 5, L0752: 5, L0764: 4, L0662: 4, S0126: 4, L0601: 4, H0624: 3, H0052: 3, H0090: 3, H0560: 3, L0769: 3, L0768: 3, L0783: 3, L0756: 3, L0755: 3, H0171: 2, S0007: 2, H0497: 2, H0486: 2, H0316: 2, H0494: 2, S0150: 2, L0776: 2, L0655: 2, L0659: 2, L0665: 2, S0027: 2, L0759: 2, L0588: 2, H0136: 2, H0542: 2, H0341: 1, H0664: 1, H0458: 1, H0125: 1, S0418: 1, S0376: 1, S0360: 1, H0489: 1, S0046: 1, S0132: 1, S0300: 1, H0351: 1, H0601: 1, H0632: 1, H0013: 1, H0244: 1, H0069: 1, H0427: 1, H0318: 1, H0581: 1, H0421: 1, H0204: 1, H0327: 1, H0046: 1, S0388: 1, S0051: 1, S6028: 1, H0687: 1, S0003: 1,

						H0252: 1, H0615: 1, H0428: 1, T0006: 1, H0553: 1, L0055: 1, H0038: 1, H0551: 1, H0059: 1, H0100: 1, H0647: 1, S0142: 1, S0344: 1, H0529: 1, L0763: 1, L0770: 1, L0639: 1, L0761: 1, L0667: 1, L0641: 1, L0374: 1, L0767: 1, L0375: 1, L0383: 1, L0647: 1, L0792: 1, L0663: 1, L0664: 1, H0520: 1, H0547: 1, H0689: 1, H0682: 1, H0670: 1, S0378: 1, S0380: 1, H0555: 1, H0478: 1, S3012: 1, L0742: 1, L0439: 1, L0754: 1, L0731: 1, L0592: 1, L0608: 1, H0543: 1, H0422: 1 and H0352: 1.		
369	HCUDS02	914401	379	63 - 860	1279	Pro-16 to Arg-23, Thr-148 to Leu-155, Phe-203 to Asp-214, Pro-255 to Ser-265.	AR089: 13, AR061: 6 S0354: 2, S0212: 1, H0484: 1, H0402: 1, S0358: 1, H0059: 1, H0494: 1, S0002: 1, L0438: 1, H0521: 1 and		

							L0751: 1.		
370	HTTJU40	914402	380	16 - 495	1280	Thr-71 to Leu-78, Phe-126 to Gly-133, Arg-150 to Gly-159.	AR089: 1, AR061: 1 H0457: 1, H0213: 1, H0634: 1 and S0002: 1.		
371	HFXJX41	915649	381	296 - 682	1281	Arg-1 to Lys-10, Gln-39 to Asp-44.	AR061: 0, AR089: 0 S0282: 1, S0150: 1 and S0260: 1.		
372	HSLCK91	915650	382	1 - 399	1282		AR089: 1, AR061: 0 S0028: 2, S0142: 1 and S0344: 1.		
373	HSLAO29	917349	383	3 - 452	1283	Ala-40 to Leu-47, Gln-79 to Cys-84, Cys-95 to Thr-100.	AR061: 17, AR089: 4 H0556: 18, H0265: 8, H0692: 8, L0748: 7, H0543: 7, S0418: 6, L0665: 5, L0747: 5, H0445: 5, H0542: 5, H0318: 4, H0617: 4, L0769: 4, H0521: 4, L0750: 4, H0423: 4, H0135: 3, H0551: 3, H0560: 3, L0768: 3, L0766: 3, L0775: 3, L0776: 3, S0328: 3, S3014: 3, S0206: 3, L0439: 3, L0740: 3, L0591: 3, L0608: 3, H0170: 2, H0657: 2, H0484: 2, H0052: 2, H0545: 2, H0012: 2, H0620: 2, H0083: 2,	12q12-q14	123829, 147570, 181430, 252940, 264700, 600194, 600231, 600808, 601284, 601769, 601769, 602116

		H0040: 2, H0087: 2, S0144: 2, L0640: 2, L0771: 2, L0773: 2, L0521: 2, L0363: 2, L0783: 2, L0383: 2, L0663: 2, H0547: 2, L0751: 2, L0731: 2, L0757: 2, L0596: 2, L0595: 2, L0362: 2, H0422: 2, T0002: 1, H0686: 1, S0040: 1, S0218: 1, H0656: 1, H0341: 1, S0180: 1, S0212: 1, H0483: 1, H0177: 1, S0420: 1, S0356: 1, S0376: 1, S0360: 1, S0408: 1, H0208: 1, S0045: 1, S0046: 1, S0132: 1, L0717: 1, S0278: 1, H0331: 1, H0256: 1, T0109: 1, T0082: 1, H0309: 1, T0110: 1, H0327: 1, H0544: 1, H0041: 1, H0050: 1, S0051: 1, H0266: 1, H0252: 1, H0328: 1, H0604: 1, H0031: 1, H0644: 1, H0628: 1, H0181: 1, H0606: 1, S0364: 1, H0068: 1,					

							H0090: 1, H0616: 1, H0264: 1, H0059: 1, H0100: 1, L0351: 1, L0065: 1, S0438: 1, H0509: 1, S0150: 1, S0472: 1, H0647: 1, S0422: 1, S0002: 1, S0426: 1, L0500: 1, L0637: 1, L0772: 1, L0372: 1, L0645: 1, L0662: 1, L0364: 1, L0388: 1, L0774: 1, L0375: 1, L0805: 1, L0653: 1, L0655: 1, L0657: 1, L0559: 1, L0659: 1, L0526: 1, L0382: 1, L0792: 1, L0666: 1, L0664: 1, H0144: 1, H0703: 1, L0438: 1, H0435: 1, S0380: 1, H0522: 1, H0696: 1, S0028: 1, L0744: 1, L0754: 1, L0779: 1, L0758: 1, L0759: 1, S0011: 1, H0668: 1, S0192: 1, S0276: 1 and S0424: 1.		AR051: 19, AR089: 14, AR061: 6, AR054: 3	
								1284	
								2 - 859	
								384	
								917583	
								HRDBJ38	
								374	

							H0124: 14, L0744: 4, S0036: 2, L0743: 2, L0759: 2, H0581: 1, H0457: 1, L0163: 1, H0616: 1, L0763: 1, L0776: 1, L0659: 1, L0783: 1, L0666: 1, L0750: 1 and L0779: 1.		
375	HOUES64	918119	385	3 - 317	1285	Pro-89 to Leu-102.	AR061: 1, AR089: 0 S0040: 1 and S0278: 1.		
376	HWLHU02	918520	386	3 - 398	1286	Gly-6 to Cys-12, Glu-48 to Asp-54, Ile-61 to Ser-73, Asn-75 to Thr-85, Gln-111 to Thr-118.	AR061: 2, AR089: 1 L0761: 2, L0791: 2, S0354: 1 and H0682: 1.		
377	HEAHA84	919363	387	84 - 794	1287	Pro-20 to Ala-30.	AR089: 46, AR061: 9		
378	HBMXQ90	922114	388	149 - 439	1288		AR089: 7, AR061: 6 S0116: 1, H0646: 1 and L0731: 1.		
379	HOEJV72	930778	389	77 - 817	1289	Leu-51 to Asp-57, Leu-91 to Lys-97, Asp-143 to Pro-148.	AR089: 6, AR061: 5 S0360: 9, L0642: 5, L0752: 5, L0662: 4, L0659: 4, L0666: 4, S0007: 3, L0646: 3, L0776: 3, L0750: 3, H0662: 2, S0222: 2, L0483: 2, L0764: 2, L0648: 2, L0775: 2, L0665: 2, H0648: 2,	1q22-q25	104770, 107300, 107670, 110700, 131210, 136132, 145001, 146790, 150292, 159440,

									159440, 159440, 173610, 186780, 191030, 191315, 208250, 233710, 600923, 600995, 601412, 601518, 601652, 602491
								L0779: 2, S0031: 2, S0110: 1, H0638: 1, S0418: 1, S0376: 1, S0444: 1, L0717: 1, H0331: 1, H0574: 1, S0414: 1, H0492: 1, H0156: 1, L0021: 1, S0049: 1, H0310: 1, H0327: 1, H0373: 1, T0010: 1, S6028: 1, H0615: 1, S0366: 1, S0036: 1, H0038: 1, H0616: 1, H0413: 1, T0041: 1, H0494: 1, S0438: 1, H0509: 1, S0142: 1, S0210: 1, L0598: 1, L0762: 1, L0640: 1, L0631: 1, L0772: 1, L0766: 1, L0551: 1, L0774: 1, L0664: 1, H0547: 1, S0126: 1, H0659: 1, S0378: 1, S0152: 1, S3014: 1, L0439: 1, L0740: 1, L0754: 1, L0756: 1, L0780: 1, L0755: 1, L0758: 1, S0434: 1, S0026: 1 and H0667: 1.			
					1290		AR089: 1, AR061: 0		
					455 - 2239				
					390				
					933364				
					HRDBH58				
					380				

						H0620: 3, L0794: 3, S0212: 2, H0254: 2, H0545: 2, H0266: 2, L0639: 2, L0759: 2, H0556: 1, H0657: 1, S0418: 1, H0580: 1, S0045: 1, H0619: 1, H0550: 1, H0600: 1, H0590: 1, H0253: 1, H0581: 1, H0052: 1, H0309: 1, H0085: 1, H0083: 1, H0628: 1, H0617: 1, H0124: 1, H0059: 1, H0494: 1, S0144: 1, S0142: 1, S0426: 1, H0529: 1, L0796: 1, L0659: 1, L0790: 1, H0519: 1, H0711: 1, S0328: 1, H0521: 1, H0522: 1, S3014: 1, L0758: 1, S0260: 1, H0343: 1, S0434: 1, L0601: 1, H0668: 1 and H0542: 1.		
381	HCE3E13	951413	391	1 - 690	1291	Val-8 to Gly-15, Asp-41 to Thr-47.	AR061: 9, AR089: 9 H0318: 1, H0052: 1, H0264: 1, S0386: 1 and H0521: 1.		
382	HUKFO68	951652	392	50 - 361	1292	Gly-1 to Gly-7, Lys-30 to Gly-36,	AR061: 1, AR089: 1 L0748: 6, L0749: 4,		

						Arg-96 to Asn-104.	H0670: 3, H0261: 2, S0222: 2, L0771: 2, L0803: 2, S0358: 1, S0360: 1, H0632: 1, H0575: 1, H0615: 1, H0059: 1, H0509: 1, L0772: 1, L0646: 1, L0764: 1, L0662: 1, L0805: 1, L0776: 1 and L0596: 1.		
383	HFXJW08	959204	393	170 - 580	1293	Val-12 to Arg-18, Thr-84 to Leu-90, Asp-103 to Gln-114.	AR089: 1, AR061: 0 S0282: 2 and H0135: 1.		
384	HBTAD04	407351	394	1 - 318	1294	Ser-10 to Gln-18.	AR089: 1, AR061: 0 S0180: 1, H0416: 1 and S0028: 1.		
		422687	868	454 - 137	1768	Arg-11 to Glu-20.			
385	HE8FG51	465267	395	1 - 267	1295	Gly-1 to Ile-8, Pro-10 to Asp-16, Asn-19 to Tyr-25, Gly-42 to Lys-49, Ile-59 to Gly-66.	AR061: 4, AR089: 1 H0266: 2, H0013: 1 and L0758: 1.		
386	HTPDU31	503077	396	305 - 3	1296	Asp-3 to Gly-11.	AR061: 11, AR089: 8 S0007: 1, S0046: 1, H0052: 1, H0039: 1 and L0439: 1.		
387	HMUBV12	549423	397	64 - 306	1297		AR061: 2, AR089: 2 L0592: 2, H0013: 1, H0178: 1, H0099: 1, H0032: 1, H0529: 1,	3p21.3	116806, 120120, 120120, 120120,

388	HMHBS90	574062	398	40 - 618	1298	Arg-3 to Gln-14, Gln-25 to Glu-30.	L0772: 1, H0521: 1 and L0780: 1.	AR061: 3, AR089: 3 L0747: 9, L0794: 5, L0789: 4, L0662: 3, L0803: 3, S0152: 3, L0439: 3, L0777: 3, L0757: 3, L0593: 3, H0624: 2, H0318: 2, H0673: 2, H0412: 2, L0800: 2, L0764: 2, L0776: 2, L0748: 2, H0171: 1, T0049: 1, H0657: 1, H0661: 1, H0449: 1, H0580: 1, H0619: 1, H0370: 1, H0156: 1, H0253: 1, H0052: 1, H0620: 1, H0201: 1, S0051: 1, T0010: 1, H0286: 1, H0688: 1, H0622: 1, H0181: 1, L0456: 1, H0135: 1, H0087: 1, H0264: 1, L0065: 1, H0633: 1, S0144: 1,		120436, 120436, 120436, 138320, 168468, 182280, 600163

389	HLHGH34	575733	399	2 - 436	1299	Phe-10 to Asn-18, Leu-80 to Ile-86, Ile-118 to Arg-123.	S0142: 1, H0529: 1, L0763: 1, L0770: 1, L0769: 1, L0761: 1, L0643: 1, L0644: 1, L0773: 1, L0767: 1, L0766: 1, L0381: 1, L0527: 1, L0659: 1, L0809: 1, L0666: 1, H0519: 1, H0593: 1, H0689: 1, H0435: 1, H0670: 1, S0037: 1, S0027: 1, L0779: 1, L0752: 1, L0758: 1, L0759: 1, L0595: 1, S0106: 1 and H0422: 1.		
390	HELHC55	577384	400	214 - 2	1300		AR061: 6, AR089: 2 S0001: 1 and S0045: 1.			
391	HKAAZ66	592105	401	3 - 434	1301	Arg-1 to Phe-19, Gln-22 to Arg-28, Leu-92 to Thr-108.	AR089: 2, AR061: 1 L0659: 13, L0731: 12, L0803: 9, L0439: 9, L0601: 8, S0152: 7, L0756: 7, H0551: 6, L0666: 5, L0747: 5, L0646: 4, L0375: 4,	AR061: 5, AR089: 2 S0007: 2, H0024: 2, L0749: 2, S0003: 1, H0659: 1, L0748: 1, L0740: 1, L0758: 1 and L0595: 1.	10p15.1	1

		L0438: 4, H0519: 4, L0599: 4, L0600: 4, S0045: 3, H0013: 3, H0050: 3, H0622: 3, H0644: 3, H0494: 3, L0372: 3, L0662: 3, H0670: 3, H0660: 3, L0602: 3, H0521: 3, L0752: 3, L0757: 3, L0758: 3, S0212: 2, S0001: 2, S0046: 2, L0717: 2, H0266: 2, S0022: 2, H0031: 2, H0628: 2, H0264: 2, H0412: 2, L0770: 2, L0637: 2, L0649: 2, L0804: 2, L0378: 2, L0654: 2, L0655: 2, L0517: 2, H0689: 2, H0672: 2, H0539: 2, L0740: 2, L0754: 2, L0590: 2, H0265: 1, H0556: 1, S0040: 1, T0049: 1, S0116: 1, S0356: 1, S0354: 1, S0444: 1, S0360: 1, S0132: 1, H0549: 1, H0550: 1, H0438: 1, H0613: 1, H0486: 1, T0039: 1, T0040: 1, S0280: 1, L0021: 1,				

		H0002: 1, H0042: 1, H0575: 1, T0082: 1, S0474: 1, H0581: 1, H0421: 1, L0040: 1, H0327: 1, L0041: 1, H0123: 1, L0471: 1, H0373: 1, H0051: 1, H0275: 1, H0375: 1, S0003: 1, S0214: 1, H0615: 1, H0039: 1, L0483: 1, H0553: 1, S0364: 1, H0316: 1, H0598: 1, H0591: 1, H0477: 1, H0268: 1, S0386: 1, H0561: 1, H0646: 1, S0210: 1, H0695: 1, L0520: 1, L0640: 1, L0638: 1, L0796: 1, L0772: 1, L0373: 1, L0764: 1, L0648: 1, L0364: 1, L0794: 1, L0774: 1, L0651: 1, L0523: 1, L0805: 1, L0653: 1, L0657: 1, L0538: 1, L0519: 1, L0544: 1, L0789: 1, L0663: 1, L0664: 1, S0052: 1, S0428: 1, H0144: 1, H0684: 1, H0435: 1, H0658: 1, H0648: 1,				

							S0378: 1, H0696: 1, H0704: 1, H0436: 1, S0390: 1, S3014: 1, S0028: 1, L0777: 1, L0755: 1, H0445: 1, L0588: 1, L0605: 1, L0485: 1, S0026: 1, S0192: 1, S0194: 1, H0542: 1, S0412: 1 and H0352: 1.		
392	HHSCN33	657367	402	1 - 396	1302		AR089: 2, AR061: 1 H0013: 1, S0010: 1, S0051: 1 and L0741: 1.		
393	HNGJQ15	660310	403	1 - 207	1303	His-51 to Gly-56.	AR061: 8, AR089: 5 S0052: 1 and H0136: 1.	2q37.2	
394	HDJME16	661396	404	1 - 486	1304	Ser-8 to Ala-16, Leu-51 to Gln-56, Tyr-61 to Ala-73, Ala-77 to Thr-83, Gln-90 to Glu-104, Glu-118 to Asp-127.	AR061: 1, AR089: 0 S0360: 2, H0553: 2, L0776: 2, L0744: 2, L0747: 2, L0750: 2, H0542: 2, S0110: 1, S0400: 1, H0441: 1, H0392: 1, H0156: 1, S0051: 1, H0687: 1, H0135: 1, H0087: 1, H0647: 1, L0631: 1, L0638: 1, L0774: 1, L0775: 1, L0659: 1, H0547: 1, S0380: 1, S0332: 1, L0743: 1, L0749: 1 and L0777: 1.	3q21-q25	106165, 117700, 117700, 150210, 169600, 180380, 180380, 180380, 190000, 203500, 222900, 232050, 276902, 600882, 601199,

									601199, 601199, 601471, 601682
395	HNTNR64	670033	405	3 - 365	1305	Asp-19 to Trp-25.	AR089: 1, AR061: 0 L0749: 8, L0759: 6, L0789: 3, L0748: 3, H0624: 2, L0471: 2, H0266: 2, H0170: 1, H0171: 1, S0360: 1, S0222: 1, H0441: 1, H0333: 1, H0013: 1, H0244: 1, H0251: 1, H0014: 1, H0553: 1, H0032: 1, S0036: 1, S0306: 1, S0150: 1, L0766: 1, L0653: 1, H0144: 1, H0520: 1, H0593: 1, H0690: 1, H0660: 1, S0380: 1, H0518: 1, H0521: 1, S0032: 1, L0439: 1, L0740: 1, L0751: 1, L0750: 1, L0756: 1, L0731: 1, L0589: 1, H0668: 1 and H0293: 1.		
396	HMICO24	677036	406	1 - 303	1306	Arg-7 to Trp-13, Thr-18 to Trp-29, Gly-55 to Ser-60.	AR061: 9, AR089: 7 L0766: 9, L0731: 5, S6028: 2, L0779: 2, H0650: 1, S0001: 1,		

							S0222: 1, L0021: 1, H0553: 1, H0551: 1, H0488: 1, S0426: 1, L0803: 1, L0784: 1, L0783: 1, L0666: 1, S0374: 1, H0365: 1, H0659: 1, H0539: 1, H0555: 1, L0777: 1, L0758: 1, L0366: 1 and H0506: 1.		
397	HSIAC23	679292	407	92 - 424	1307	Arg-34 to Thr-40, Asp-79 to Gly-90.	AR061: 0, AR089: 0 L0439: 8, L0438: 7, L0666: 4, H0685: 1, S0376: 1, S0360: 1, L0444: 1, L0021: 1, H0036: 1, H0553: 1, L0772: 1, L0771: 1, L0768: 1, L0774: 1, L0651: 1, L0659: 1, H0684: 1, H0672: 1 and L0754: 1.	9q21.11-21.33	602014
398	HSLFL74	685897	408	3 - 473	1308		AR089: 1, AR061: 0 S0028: 2, S0218: 1, S0001: 1 and S0390: 1.		
399	HSDJD53	698259	409	163 - 624	1309	Ala-29 to Leu-35, Ala-45 to Pro-53, Ser-80 to Arg-89, Val-111 to Cys-118.	AR089: 2, AR061: 0 H0687: 2, S0050: 1, S0028: 1, S0031: 1 and S0260: 1.		
400	HCEBF33	702955	410	3 - 581	1310		AR061: 6, AR089: 4 L0439: 2, H0052: 1,		

401	HAPQW27	705518	411	1 - 327	1311	Asn-3 to Arg-11, Gln-42 to Asp-50.	H0644: 1, H0520: 1 and L0756: 1.	AR061: 4, AR089: 1 L0748: 5, L0744: 4, L0751: 4, H0039: 3, H0617: 3, L0646: 3, L0809: 3, L0779: 3, H0295: 2, H0255: 2, S0358: 2, H0575: 2, H0457: 2, H0181: 2, H0673: 2, L0637: 2, L0743: 2, L0750: 2, L0758: 2, S0116: 1, H0663: 1, S0356: 1, S0376: 1, S0360: 1, H0675: 1, S0007: 1, H0497: 1, H0590: 1, H0618: 1, H0253: 1, H0545: 1, S0051: 1, H0622: 1, H0030: 1, H0135: 1, H0538: 1, S0426: 1, H0529: 1, L0763: 1, L0769: 1, L0764: 1, L0771: 1, L0773: 1, L0775: 1, L0788: 1, L0663: 1, H0144: 1, L0438: 1, H0690: 1, H0670: 1, H0672: 1, S0328: 1, S0406: 1, H0187: 1,	8qter	

402	HCFLZ28	707183	412	133 - 513	1312	Glu-46 to Gly-54, Val-64 to Ala-69, Glu-74 to Leu-79, Glu-90 to Glu-97.	L0747: 1, L0749: 1, L0759: 1 and L0608: 1.		
							AR089: 2, AR061: 1 H0556: 8, L0596: 8, L0588: 6, H0618: 5, H0266: 5, H0038: 5, H0616: 5, H0547: 5, L0740: 5, H0265: 4, S0022: 4, H0591: 4, H0529: 4, L0769: 4, L0766: 4, L0664: 4, H0521: 4, L0747: 4, S0420: 3, H0497: 3, H0253: 3, H0031: 3, H0135: 3, H0264: 3, H0056: 3, H0494: 3, L0657: 3, L0438: 3, L0748: 3, L0777: 3, L0758: 3, H0543: 3, H0624: 2, H0656: 2, S0418: 2, S0007: 2, H0333: 2, H0013: 2, S0010: 2, H0596: 2, L0471: 2, H0083: 2, H0039: 2, H0622: 2, H0617: 2, H0068: 2, H0163: 2, H0623: 2, H0100: 2, L0369: 2, L0763: 2, L0764: 2, L0378: 2, L0656: 2,		

		L0663: 2, H0144: 2, H0701: 2, H0520: 2, H0690: 2, H0539: 2, H0478: 2, L0439: 2, L0750: 2, L0759: 2, L0593: 2, L0595: 2, H0653: 2, H0542: 2, H0170: 1, H0171: 1, S0402: 1, S0356: 1, S0358: 1, S0045: 1, S0046: 1, H0393: 1, L0717: 1, H0550: 1, S0222: 1, H0592: 1, H0587: 1, H0642: 1, T0114: 1, H0101: 1, T0082: 1, S0346: 1, H0318: 1, S0049: 1, T0115: 1, H0597: 1, H0530: 1, H0546: 1, H0050: 1, H0024: 1, H0015: 1, H0373: 1, H0286: 1, H0401: 1, H0553: 1, H0383: 1, H0673: 1, H0124: 1, S0366: 1, H0634: 1, H0551: 1, H0412: 1, H0413: 1, H0059: 1, H0102: 1, S0112: 1, L0475: 1, H0560: 1, S0150: 1, H0633: 1, H0538: 1, S0210: 1,					

							L0770: 1, L0646: 1, L0773: 1, L0662: 1, L0768: 1, L0381: 1, L0803: 1, L0804: 1, L0651: 1, L0653: 1, L0606: 1, L0527: 1, L0659: 1, L0526: 1, L0519: 1, S0006: 1, S0374: 1, H0519: 1, S0126: 1, H0711: 1, S0328: 1, S0152: 1, H0696: 1, H0626: 1, H0627: 1, L0752: 1, L0755: 1, L0757: 1, H0445: 1, L0591: 1, L0581: 1, L0601: 1, H0665: 1, H0136: 1, S0192: 1, H0423: 1, L0697: 1, S0424: 1 and H0293: 1.		
403	HWCAB58	710377	413	3 - 449	1313	Lys-14 to Leu-21.	AR089: 13, AR061: 6 L0759: 2, H0012: 1, S0294: 1, L0809: 1, L0791: 1 and L0777: 1.			
404	HLMMC57	713770	414	221 - 478	1314		H0255: 2, H0163: 1, H0691: 1 and L0747: 1.			
405	HMELH37	717556	415	163 - 558	1315	Asp-34 to Ser-44.	AR089: 2, AR061: 1			
406	HNGJI55	722240	416	1 - 303	1316	Arg-1 to Asp-11, Thr-15 to Thr-21,	AR050: 48, AR054: 42, AR051: 37, AR061:			

						Pro-93 to Glu-101.	6, AR089: 3 H0164: 1, S0052: 1 and S0031: 1.		
		868063	869	218 - 646	1769	His-8 to Gly-18, Glu-30 to Asp-36, Thr-40 to Thr-46, Pro-118 to Ala-133.			
407	HHGDG42	724795	417	128 - 358	1317		AR061: 47, AR089: 2		
408	HMTMF31	731302	418	50 - 424	1318		AR089: 1, AR061: 0 H0525: 1		
409	HSDIF59	739212	419	282 - 752	1319	Pro-19 to Thr-31, Asp-137 to Ser-143.	AR089: 4, AR061: 2 S0218: 1, S0222: 1, H0617: 1, S0150: 1 and S0260: 1.		
410	HNDAG60	751953	420	174 - 365	1320	Ser-9 to Asp-15, Glu-20 to Asp-28, Glu-34 to Cys-40.	AR089: 14, AR061: 7 H0031: 2, H0624: 1, S0116: 1, S0354: 1, S0045: 1, H0581: 1, H0046: 1, H0428: 1, H0038: 1, H0494: 1, H0517: 1 and S0053: 1.	1	
411	HSLDS79	753247	421	99 - 1646	1321	Pro-5 to Lys-12, Ala-31 to Pro-41, Phe-58 to Thr-63, Gln-83 to Phe-89, Pro-102 to Leu-116, Ser-130 to Asp-138, Pro-196 to Gln-208, Tyr-231 to Ala-240,	AR050: 10, AR051: 4, AR054: 3, AR089: 1, AR061: 1 H0544: 1 and S0028: 1.		

						Gly-252 to Arg-257, Arg-269 to Ser-281, Ala-289 to Ala-297, Phe-314 to Thr-327, Ala-371 to Ile-376, Tyr-379 to Trp-387, Lys-394 to Asn-400, Lys-443 to Gly-453, Asp-490 to Glu-497, Val-510 to Glu-516.			
		879215	870	349 - 2	1770	Asn-31 to Ser-38, Pro-82 to Thr-89.			
412	HFBCQ61	769102	422	3 - 245	1322	Glu-9 to Trp-18.	H0590: 1 and N0006: 1.		
413	HRACD17	769103	423	2 - 385	1323	Phe-1 to Lys-7, Met-14 to Gly-20.	AR089: 1, AR061: 1 S6028: 2, H0553: 2, L0766: 2, L0754: 2, H0650: 1, S0001: 1, H0663: 1, T0048: 1, H0050: 1, S0003: 1, H0551: 1, H0412: 1, S0426: 1, H0365: 1, H0539: 1, H0555: 1, L0740: 1, L0777: 1 and L0757: 1.		
414	HLDQV23	788957	424	17 - 376	1324	Ala-55 to Ser-60, His-83 to Gly-90.	AR061: 2, AR089: 2 S0052: 3, L0438: 3, H0063: 2, H0144: 2, L0439: 2, L0587: 2, S0342: 1, L0785: 1,		

						T0082: 1, H0009: 1, H0083: 1, H0510: 1, H0266: 1, H0135: 1, T0041: 1, H0494: 1, L0369: 1, L0667: 1, L0800: 1, L0774: 1, L0787: 1, H0547: 1, L0747: 1, L0759: 1, L0593: 1 and S0424: 1.		
415	HPHAF45	812327	425	1 - 384	1325	Cys-26 to Trp-34, Phe-111 to Asp-119.	AR089: 1, AR061: 0 H0619: 1, H0431: 1, S0148: 1, H0519: 1, L0589: 1, L0591: 1 and L0594: 1.		
416	HSUME31	812373	426	1 - 441	1326	Thr-2 to Arg-7, Asp-37 to Trp-42.	AR061: 168, AR089: 115 H0556: 6, H0265: 4, H0040: 4, S0418: 2, S0420: 2, H0266: 2, H0038: 2, T0002: 1, T0049: 1, S0045: 1, S0046: 1, S6022: 1, H0256: 1, H0486: 1, H0634: 1, L0766: 1, S0052: 1, S0126: 1, H0539: 1, S0037: 1, S0027: 1, L0743: 1, L0751: 1, L0749: 1, L0731: 1, L0591: 1, L0595: 1, H0136: 1,		

							S0276: 1 and H0543: 1.		
417	HUSHB56	815819	427	2 - 412	1327	Pro-8 to Arg-14, Glu-16 to Arg-23, Gly-25 to Pro-30, Arg-59 to Glu-69, Pro-78 to Glu-83.	AR089: 2, AR061: 1 H0437: 1 and H0538: 1.		
418	HTGDN81	824708	428	390 - 1031	1328		AR050: 9, AR054: 3, AR051: 1, AR061: 0, AR089: 0 S0028: 2, S0134: 1, S0132: 1 and S0222: 1.		
419	HSKHY26	836598	429	2 - 571	1329		AR089: 1, AR061: 0 H0478: 3, S0278: 2, L0731: 2, S0001: 1, S0360: 1, S0132: 1, H0619: 1, H0263: 1, S0036: 1, H0040: 1, H0494: 1, S0142: 1, S0344: 1, L0764: 1, L0766: 1, S3014: 1, L0748: 1, H0445: 1 and S0434: 1.	12q13	107777, 123940, 139350, 139350, 148040, 148041, 148043, 148070, 231550, 600194, 600231, 600536, 600808, 600956, 601284, 601769, 601769, 601928, 602116,

										602153
420	HKACD80	837698	430	72 - 536	1330	Pro-34 to Val-40, Thr-65 to Asp-70.	AR089: 12, AR061: 6 L0766: 4, H0052: 3, L0662: 3, L0776: 3, L0666: 3, L0665: 3, H0521: 3, H0438: 2, H0581: 2, H0263: 2, H0494: 2, L0763: 2, L0770: 2, L0769: 2, L0649: 2, L0664: 2, L0748: 2, L0439: 2, L0747: 2, S0436: 2, H0265: 1, H0556: 1, S0040: 1, H0656: 1, S0444: 1, S0278: 1, H0415: 1, H0403: 1, H0643: 1, S0280: 1, H0575: 1, H0194: 1, H0309: 1, H0545: 1, H0046: 1, L0157: 1, H0375: 1, L0483: 1, H0553: 1, H0412: 1, H0646: 1, S0002: 1, L0796: 1, L0644: 1, L0764: 1, L0774: 1, L0376: 1, L0806: 1, L0654: 1, L0659: 1, L0383: 1, H0547: 1, S0126: 1, H0684: 1, H0435: 1, H0478: 1,		

							S0028: 1, L0751: 1, L0754: 1, L0749: 1, L0750: 1, L0779: 1, L0759: 1, H0543: 1 and H0423: 1.		
421	HHFDK48	837782	431	1 - 384	1331	Asn-1 to Gly-8, His-10 to Lys-15, Gly-96 to Cys-102, Pro-104 to Phe-109.	AR089: 257, AR061: 210 H0050: 1, L0194: 1 and H0555: 1.		
422	HE9SS77	838043	432	3 - 725	1332	Leu-1 to Tyr-8, Lys-21 to Asn-27, Asn-33 to Thr-49.	AR089: 102, AR061: 58 H0013: 1, S0250: 1, S0022: 1, H0038: 1, L0659: 1, H0144: 1 and S0390: 1.		
423	HAPOK49	848205	433	123 - 1031	1333		AR061: 8, AR089: 6 H0641: 9, L0748: 6, L0731: 5, L0777: 4, L0758: 4, L0771: 3, L0755: 3, H0638: 2, H0622: 2, L0769: 2, L0637: 2, L0662: 2, L0766: 2, L0775: 2, S0126: 2, H0518: 2, H0521: 2, H0522: 2, S0206: 2, L0779: 2, H0423: 2, T0002: 1, H0657: 1, L0785: 1, H0661: 1, L0562: 1, L0539: 1, S0356: 1,		

						L0622: 1, H0486: 1, H0427: 1, H0575: 1, H0004: 1, H0083: 1, H0109: 1, H0039: 1, H0617: 1, H0090: 1, H0063: 1, H0130: 1, S0002: 1, S0426: 1, L0763: 1, L0770: 1, L0761: 1, L0772: 1, L0372: 1, L0764: 1, L0768: 1, L0774: 1, L0776: 1, L0655: 1, L0659: 1, L0542: 1, L0789: 1, L0666: 1, L0663: 1, L0438: 1, H0435: 1, S0044: 1, S0404: 1, H0187: 1, H0478: 1, L0747: 1, L0759: 1, L0591: 1 and H0543: 1.		
424	HPMGN48	848318	434	3 - 635	1334	His-1 to Thr-6, Pro-14 to Trp-21, Glu-43 to Gly-50, Asp-97 to Gly-103, Glu-141 to Asp-149, Ile-199 to Gly-204.	AR089: 15, AR061: 5 H0550: 2, L0662: 2, H0657: 1, H0662: 1, H0619: 1, S0474: 1, H0081: 1, L0471: 1, H0428: 1, H0031: 1, H0063: 1, H0494: 1, L0642: 1, L0666: 1, L0748: 1 and L0747: 1.		
425	HUVHP54	849278	435	258 - 1001	1335	Glu-86 to Asp-93,	AR061: 7, AR089: 7		

					Trp-100 to Asp-110, Asp-163 to Asn-172.	S0358: 5, H0590: 2, H0623: 2, L0803: 2, S0152: 2, S3014: 2, L0754: 2, H0458: 1, S0354: 1, H0549: 1, H0431: 1, H0497: 1, H0042: 1, H0036: 1, H0581: 1, H0196: 1, T0115: 1, H0024: 1, H0275: 1, H0622: 1, S0364: 1, H0124: 1, H0056: 1, H0429: 1, S0150: 1, L0640: 1, L0642: 1, L0804: 1, L0666: 1, S0330: 1, H0478: 1, S0027: 1, S0206: 1, L0592: 1, L0604: 1 and S0424: 1.		
426	HSLDK59	853385	436	491 - 1009	1336	Glu-18 to Lys-24, Pro-68 to Gly-75, Tyr-122 to Arg-136, Pro-148 to Glu-158.	AR061: 1, AR089: 1 S0028: 3, S0222: 2, L0105: 2, S0050: 2, S0390: 2, S0260: 2, H0344: 1, H0381: 1, S0282: 1, H0618: 1, S0051: 1, S6028: 1, H0271: 1, H0383: 1, H0264: 1 and S0038: 1.		
427	HMWDI41	854051	437	2 - 613	1337	Ile-30 to Cys-36, Pro-56 to Gly-65, Glu-105 to Glu-110,	AR089: 2, AR061: 1 L0766: 4, L0809: 2, L0756: 2, L0605: 2,		

428	HFVHU73	856165	438	3 - 314	1338	Tyr-170 to Arg-175, Asp-183 to Trp-189.	H0341: 1, S0358: 1, H0051: 1, S0210: 1, H0529: 1, L0803: 1, H0539: 1, H0521: 1, H0436: 1, L0779: 1, L0366: 1 and H0506: 1.			
						Val-34 to Lys-56, Pro-65 to Asp-73, Thr-79 to Asn-84.	AR089: 6, AR061: 1 H0341: 1, H0393: 1 and H0266: 1.			
429	HMUBJ80	858497	439	517 - 2	1339		AR089: 16, AR061: 4 L0748: 9, L0439: 5, L0717: 4, L0659: 4, L0663: 4, H0658: 4, S0045: 3, L0766: 3, L0744: 3, L0749: 3, L0758: 3, H0542: 3, H0265: 2, H0556: 2, S0040: 2, H0458: 2, H0587: 2, H0486: 2, H0318: 2, H0052: 2, H0687: 2, L0770: 2, L0769: 2, L0646: 2, L0666: 2, H0682: 2, L0756: 2, L0752: 2, L0731: 2, L0608: 2, H0543: 2, H0423: 2, H0656: 1, H0402: 1, S0418: 1, S0420: 1, S0360: 1, H0619: 1, H0392: 1, H0643: 1,			

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430	HE9ML74	859297	440	3 - 959	1340	Asp-8 to Asp-20, Phe-43 to Arg-52, Ser-102 to Asp-107, His-109 to Asp-124,	AR061: 1, AR089: 1 L0803: 9, L0758: 7, L0439: 6, L0740: 5, L0766: 4, L0666: 4,		

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431	HLQAJ01	864092	441	1 - 300	1341	Pro-56 to Arg-67, Asp-86 to Gly-98.	AR089: 14, AR061: 10 L0803: 4, L0764: 2, L0794: 2, H0331: 1, H0574: 1, H0486: 1, H0318: 1, H0264: 1, L0804: 1, L0809: 1, L0665: 1, L0438: 1, H0684: 1, L0759: 1 and L0584: 1.		
432	HSLDP32	866241	442	12 - 257	1342	Asn-6 to Lys-13.	AR089: 1, AR061: 0 S0028: 2, H0135: 1, H0163: 1 and S0044: 1.		
433	HPMEG40	866272	443	270 - 611	1343	Val-1 to Leu-7, Arg-49 to Trp-59.	AR089: 0, AR061: 0 S0028: 4, S0390: 2, S0300: 1, H0031: 1, S0144: 1 and S0032: 1.		
434	HRADE27	867195	444	2 - 547	1344	Glu-33 to Pro-38.	AR089: 1, AR061: 0 L0435: 2, H0624: 1, L0717: 1, S0214: 1, L0662: 1, L0766: 1, L0803: 1, S0380: 1,		

							H0555: 1, L0754: 1 and L0756: 1.		
435	HTXQR10	869137	445	76 - 537	1345	Ser-38 to Thr-46.	AR061: 5, AR089: 3 H0250: 4, L0745: 4, L0746: 4, L0766: 3, L0666: 2, L0758: 2, H0556: 1, S0418: 1, H0486: 1, H0052: 1, H0252: 1, H0181: 1, H0116: 1, H0412: 1, S0210: 1, L0764: 1, L0794: 1 and H0672: 1.		
436	HEQCB27	871062	446	1 - 423	1346		AR089: 19, AR061: 3 H0544: 1 and S0036: 1.		
437	HE8AM04	871156	447	3 - 518	1347		AR061: 223, AR089: 167 H0013: 2, H0135: 1 and H0633: 1.		
438	HSLHT48	871996	448	81 - 542	1348	Pro-17 to Ala-22.	AR061: 1, AR089: 1 S0028: 2, S0045: 1, S6026: 1, H0231: 1, S0050: 1, H0617: 1, H0189: 1 and S0144: 1.		
439	HS2SH70	875870	449	193 - 1014	1349	Thr-5 to Gln-52, Lys-121 to Ile-134.	AR089: 1, AR061: 1 H0124: 5, T0040: 2, H0144: 2, S0342: 1, S0046: 1, H0550: 1, H0455: 1, H0486: 1, H0575: 1, T0110: 1, H0046: 1, H0266: 1,		

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440	HAOAE45	876157	450	3 - 440	1350			AR089: 414, AR061: 79 L0751: 2, H0341: 1, S0132: 1, H0550: 1, S0222: 1, H0431: 1, H0046: 1, L0471: 1, H0083: 1, S0314: 1, H0031: 1, H0644: 1, H0488: 1, H0413: 1, T0041: 1, S0150: 1, S0344: 1, L0662: 1, L0657: 1, L0663: 1, S0374: 1, H0519: 1, L0748: 1 and L0592: 1.		
441	HELBA42	878549	451	69 - 695	1351	Lys-35 to Gln-40, Gln-61 to Lys-66, Ser-116 to Gly-121, Gln-192 to Ser-205.		AR089: 53, AR050: 32, AR054: 28, AR051: 24, AR061: 19 L0439: 3, S0212: 2, H0052: 2, S0051: 2, L0805: 2, H0435: 2, H0624: 1, H0265: 1, H0686: 1, S0420: 1, S0045: 1, S0300: 1, S0222: 1, H0069: 1,		

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442	HSPBB15	878791	452	1 - 564	1352	Gly-19 to Thr-24.	AR089: 10, AR061: 2 H0484: 2, H0052: 1 and H0478: 1.			
443	HTAFF91	879399	453	3 - 431	1353	Gly-1 to Cys-6.	AR089: 4, AR061: 0 H0305: 2, H0587: 1 and H0069: 1.			
444	HETHB58	879640	454	28 - 669	1354	Ser-28 to Val-35, Arg-49 to Arg-57.	AR061: 4, AR089: 2 H0539: 5, L0758: 4, H0620: 3, L0809: 3, H0050: 2, S0002: 2, L0803: 2, L0805: 2, S0330: 2, L0754: 2, L0755: 2, L0605: 2, H0265: 1, H0556: 1, S0040: 1, H0341: 1, S0212: 1, S0110: 1, S0360: 1, H0645: 1, S0278: 1, H0431: 1, H0497: 1, H0013: 1, H0618: 1, H0581: 1, H0052: 1, H0544: 1, H0046: 1, H0024: 1, H0051: 1, S0250: 1,			

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445	HGBCU40	880328	455	93 - 533	1355	Pro-1 to Lys-12, Gln-29 to Arg-34, Asn-37 to Tyr-48, Asn-54 to Ser-63, Pro-68 to Leu-73, Asp-125 to Gln-135.	AR089: 2, AR061: 1 H0251: 4, H0024: 2, H0341: 1, S0418: 1, H0015: 1, S0013: 1 and L0601: 1.		
446	HE9PR39	882939	456	3 - 500	1356	Pro-8 to Gly-17, Arg-22 to Ser-29.	AR061: 4, AR089: 2 H0013: 4, L0740: 3, H0163: 2, L0768: 2, L0593: 2, H0624: 1, H0171: 1, S0003: 1, T0006: 1, L0776: 1, H0144: 1, H0547: 1, L0750: 1, L0759: 1 and L0592: 1.		
447	HTEAF36	839516	457	68 - 316	1357		AR089: 2, AR061: 1		

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S0436: 1, L0592: 1,
L0599: 1, L0361: 1,
L0603: 1, S0460: 1,
S0446: 1, H0506: 1 and

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		883195	872	1 - 669	1772	Leu-21 to Phe-27, Gly-61 to Ala-68, Ala-85 to His-91, Asp-96 to Val-101, Asp-117 to Ile-131, Ala-155 to Ser-161.							
448	HTLGW66	883855	458	3 - 1085	1358	Glu-1 to Gln-19, Arg-58 to Pro-67, Glu-78 to Phe-85, Ser-104 to Arg-114, Arg-121 to Lys-130, Arg-135 to Thr-140, Asn-159 to Ser-168.	L0600: 1.	AR061: 1, AR089: 1 L0601: 2, H0618: 1, H0085: 1 and H0024: 1.	2q37.2				
449	HPJDV95	888844	459	362 - 1906	1359	Thr-12 to Ser-19, Val-22 to Glu-32, His-34 to Lys-43, Glu-129 to Lys-134, Phe-221 to Gln-226, Pro-231 to Pro-236, Lys-288 to Lys-299, Glu-320 to Gln-327, Thr-448 to Pro-455, Thr-490 to Glu-495.		AR061: 6, AR089: 2 H0457: 5, L0439: 4, H0013: 3, H0244: 3, H0266: 3, L0748: 3, H0556: 2, H0052: 2, H0040: 2, L0741: 2, L0740: 2, L0747: 2, L0759: 2, H0543: 2, H0265: 1, S0356: 1, H0580: 1, S0132: 1, H0619: 1, S0222: 1, T0082: 1, H0036: 1, H0421: 1, H0046: 1, H0009: 1, H0620: 1, T0010: 1, H0083: 1,				

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450	HCROF75	889436	460	48 - 533	1360	Ser-14 to Trp-22.	AR089: 29, AR061: 15 L0742: 2, S0356: 1, S0358: 1, S0360: 1, H0617: 1, H0040: 1 and H0522: 1.			
451	HDPAP15	909703	461	131 - 1120	1361	Arg-147 to Asn-153, Arg-165 to Glu-174, Phe-217 to Lys-222, Ala-306 to Ser-313.	AR089: 5, AR061: 2 L0755: 6, H0521: 5, H0634: 4, L0771: 4, L0766: 4, L0759: 4, L0800: 3, L0774: 3, H0659: 3, L0748: 3, L0754: 3, H0171: 2, H0550: 2, H0587: 2, H0264: 2, L0764: 2, L0768: 2, L0803: 2, L0775: 2, L0517: 2,			

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452	HTGDH34	896571	462	261 - 112	1362	Lys-6 to Gly-12.	AR089: 10, AR061: 6 L0766: 10, L0758: 10, L0755: 8, L0731: 6, H0616: 5, L0740: 5, H0494: 4, H0696: 4, L0756: 4, L0752: 4, L0757: 4, S0358: 3, H0038: 3, L0770: 3, L0775: 3, S0328: 3, L0747: 3, H0662: 2, H0638: 2, H0580: 2, S0280: 2, H0052: 2, H0266: 2, T0067: 2, L0809: 2, L0666: 2, S0126: 2, H0435: 2, H0648: 2, H0521: 2, L0744: 2, L0748: 2, L0751: 2, L0749: 2, L0750: 2, L0684: 2, H0423: 2, S0040: 1, S0134: 1, H0657: 1, H0341: 1, S0212: 1, H0125: 1, H0370: 1, H0587: 1, H0486: 1, T0109: 1, H0250: 1, L0021: 1, H0098: 1,	L0746: 1, L0747: 1, L0750: 1, L0757: 1, L0758: 1, H0445: 1, S0026: 1 and S0276: 1.		

453	HPDEH29	914591	913378	463	873	636 - 145	337 - 774	1363	1773	Ile-94 to Gly-99.	S0010: 1, H0581: 1, H0421: 1, H0251: 1, L0471: 1, H0057: 1, H0083: 1, H0428: 1, S0364: 1, S0366: 1, H0090: 1, H0412: 1, H0022: 1, S0422: 1, S0002: 1, L0520: 1, L0762: 1, L0763: 1, L0646: 1, L0764: 1, L0771: 1, L0662: 1, L0386: 1, L0774: 1, L0378: 1, L0805: 1, L0653: 1, L0776: 1, L0606: 1, L0628: 1, L0657: 1, L0659: 1, L0783: 1, L0792: 1, L0663: 1, H0547: 1, H0519: 1, H0672: 1, S0330: 1, H0539: 1, S0378: 1, S0136: 1, H0134: 1, S0027: 1, L0754: 1, L0759: 1, H0445: 1, H0707: 1, L0588: 1, L0366: 1, H0668: 1, S0026: 1, S0276: 1 and H0506: 1.	AR089: 1, AR061: 1 S0358: 4, L0748: 3,	

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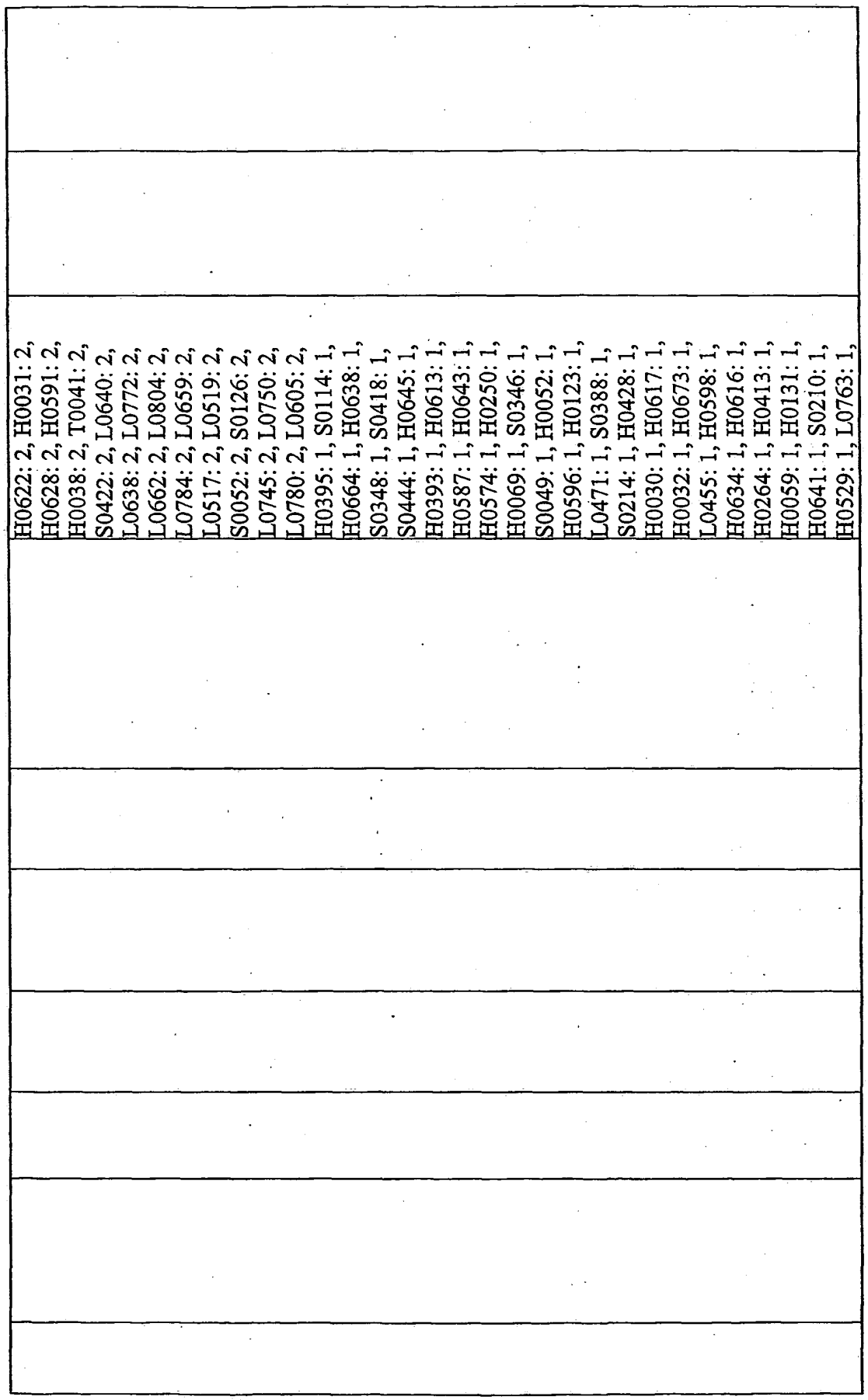
454	HDPVG08	914973	464	3 - 1715	1364	Val-6 to Arg-16, Asp-25 to Thr-34.	AR089: 3, AR061: 2 L0754: 27, S0003: 22, L0731: 19, L0748: 18, L0439: 14, L0803: 13, L0758: 13, L0794: 12, L0777: 12, L0766: 10, L0805: 10, L0740: 8, L0747: 8, L0749: 8, L0779: 8, L0770: 7, H0521: 7, S0360: 6, L0756: 5, H0013: 4, H0553: 4, L0776: 4, L0438: 4, L0757: 4, S0354: 3, H0328: 3, H0615: 3, H0144: 3, L0755: 3, H0543: 3, H0556: 2, H0657: 2, H0661: 2, H0580: 2, H0486: 2, S0474: 2, H0421: 2, H0050: 2,	1q32	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L0784: 2, L0659: 2,
L0517: 2, L0519: 2,
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S0049: 1, H0052: 1,
H0596: 1, H0123: 1,
L0471: 1, S0388: 1,
S0214: 1, H0428: 1,
H0030: 1, H0617: 1,
H0032: 1, H0673: 1,
L0455: 1, H0598: 1,
H0634: 1, H0616: 1,
H0264: 1, H0413: 1,
H0059: 1, H0131: 1,
H0641: 1, S0210: 1,
H0529: 1, L0763: 1,

						L0761: 1, L0764: 1, L0771: 1, L0521: 1, L0649: 1, L0650: 1, L0661: 1, L0384: 1, L0809: 1, L0647: 1, L0788: 1, L0789: 1, L0666: 1, L0663: 1, L0665: 1, S0428: 1, S0374: 1, H0519: 1, H0658: 1, H0648: 1, S0328: 1, S0330: 1, S0152: 1, H0696: 1, S0044: 1, H0436: 1, H0478: 1, H0540: 1, L0752: 1, L0753: 1, L0759: 1, S0031: 1, H0707: 1, L0608: 1, L0595: 1, S0026: 1, H0423: 1, L0697: 1, S0424: 1 and H0506: 1.		
455	HFXDW32	916095	465	2 - 886	1365	Gly-11 to Lys-20, His-41 to Cys-47, Thr-82 to Lys-90.	S0001: 2, H0624: 1, H0689: 1 and S0028: 1.		
456	HSSCY03	916445	466	2 - 1345	1366		L0741: 4, L0744: 4, H0556: 3, S0344: 3, L0763: 3, L0766: 3, L0743: 3, L0754: 3, L0747: 3, L0758: 3, L0596: 3, S0212: 2, H0662: 2, S0358: 2,		

						S0045: 2, S0140: 2, H0370: 2, L0483: 2, L0769: 2, L0774: 2, H0521: 2, L0748: 2, L0759: 2, S0114: 1, H0255: 1, H0306: 1, S0046: 1, H0619: 1, S0278: 1, S0280: 1, H0309: 1, T0010: 1, S6028: 1, H0424: 1, H0644: 1, S0036: 1, H0135: 1, H0272: 1, H0412: 1, H0059: 1, H0560: 1, H0561: 1, H0131: 1, H0647: 1, H0649: 1, L0770: 1, L0761: 1, L0776: 1, H0144: 1, H0672: 1, H0576: 1, S3014: 1, S0027: 1, L0749: 1, L0755: 1, S0026: 1, H0665: 1, S0196: 1 and H0506: 1.	
					1367	Lys-20 to Ile-29, Arg-46 to Pro-59, Ile-86 to Asn-93, Phe-115 to Asn-120.	AR061: 2, AR089: 1 S0028: 4, S0001: 2, S0282: 2, S0278: 2, S0050: 2, H0416: 1, H0027: 1, S0038: 1, S0052: 1, S0053: 1, H0684: 1 and S0044: 1.	
					139 - 615			
					467			
					916758			
					HFXFI49			
					457			

458	HTLGH72	917526	468	33 - 776	1368		AR089: 15, AR061: 11 L0803: 16, S0358: 2, H0031: 2, S0144: 2, L0770: 2, L0804: 2, L0439: 2, L0780: 2, S0116: 1, S0360: 1, H0441: 1, H0431: 1, H0331: 1, H0618: 1, H0544: 1, L0471: 1, H0510: 1, S0318: 1, H0264: 1, L0769: 1, L0783: 1, L0809: 1, L0790: 1, L0438: 1, L0355: 1, L0751: 1, L0779: 1, L0777: 1 and L0758: 1.		
459	HSUAE63	917758	469	896 - 2188	1369	Ser-2 to Gln-22, Pro-94 to His-110, Phe-167 to Ala-172, Leu-261 to Gly-268.	AR061: 2, AR089: 1 L0595: 6, H0069: 4, H0521: 4, L0777: 3, H0663: 2, H0620: 2, H0494: 2, L0646: 2, L0764: 2, L0649: 2, S0152: 2, L0592: 2, T0002: 1, S0040: 1, H0657: 1, H0341: 1, H0661: 1, H0305: 1, H0580: 1, H0645: 1, L0717: 1, H0431: 1, H0587: 1, T0040: 1, H0635: 1, H0575: 1,		

							S0010: 1, H0581: 1, H0012: 1, T0010: 1, H0290: 1, H0292: 1, H0615: 1, H0634: 1, H0560: 1, S0344: 1, L0521: 1, L0768: 1, L0791: 1, H0658: 1, H0134: 1, S0028: 1, L0753: 1, L0759: 1, L0591: 1, H0667: 1, H0136: 1, H0543: 1 and H0422: 1.		
460	HAPTQ56	918920	470	1400 - 606	1370	His-6 to Gly-16.	AR089: 233, AR061: 50 L0803: 7, L0766: 3, L0774: 3, L0659: 3, L0745: 3, L0791: 2, L0608: 2, S0356: 1, S0354: 1, S0376: 1, S0222: 1, H0013: 1, L0021: 1, H0575: 1, H0596: 1, H0457: 1, L0157: 1, S0003: 1, H0560: 1, H0130: 1, H0646: 1, S0142: 1, S0426: 1, H0529: 1, L0641: 1, L0794: 1, L0775: 1, L0806: 1, L0805: 1, L0776: 1, L0658: 1, H0520: 1,		

							H0670: 1, S0330: 1, S0136: 1, H0521: 1, H0522: 1, H0555: 1, S0037: 1, S0206: 1, L0779: 1, L0759: 1, L0684: 1, S0192: 1 and S0412: 1.		
		919863	874	1 - 726	1774	Gly-1 to Gly-20, Phe-27 to Val-34, Thr-70 to Lys-75, Pro-95 to Ala-101, Ile-162 to Arg-172.			
461	HNFIF54	919034	471	2 - 652	1371	Asn-32 to Trp-40, Asp-44 to Gly-53, Arg-81 to Arg-86.	AR061: 1, AR089: 1 H0305: 4, S0028: 3, H0589: 1, S0045: 1, H0416: 1, H0576: 1 and S0390: 1.		
462	HSDFF02	920435	472	2 - 376	1372	Val-6 to Met-12.	AR061: 26, AR089: 21 S0031: 2 and S0044: 1.		
463	HE8NS06	921076	473	3 - 1100	1373	Gln-10 to Arg-15, Tyr-31 to Ser-45, Asn-59 to Thr-67, Glu-74 to Arg-79, Ser-137 to Lys-144, Pro-162 to Glu-167, Ser-213 to Gly-221, Ile-261 to Lys-267.	AR089: 3, AR061: 3 L0748: 9, H0013: 1, S0346: 1, H0090: 1, H0591: 1 and L0600: 1.		
464	HASBA77	921365	474	45 - 467	1374	Glu-3 to Ser-13, Asp-74 to Glu-79, Ala-92 to Ser-97,	AR050: 61, AR054: 60, AR051: 49, AR089: 9, AR061: 2		

						His-114 to Ala-125.	L0804: 3, L0748: 3, L0749: 3, S0196: 3, H0530: 2, H0413: 2, L0777: 2, H0686: 1, S0114: 1, H0341: 1, H0638: 1, H0393: 1, H0175: 1, H0071: 1, H0321: 1, H0561: 1, L0769: 1, L0794: 1, L0803: 1, L0805: 1, L0790: 1, L0740: 1, L0747: 1, L0758: 1, S0260: 1 and H0543: 1.		
		921366	875	61 - 588	1775	Asp-66 to Glu-71, Ala-84 to Ser-89, His-106 to Ala-118, Tyr-130 to Leu-164, Leu-168 to Val-175.			
465	HSKDP26	921831	475	449 - 51	1375		AR089: 2, AR061: 2 T0074: 3, H0014: 1, S0027: 1 and S0028: 1.		
466	HMTAY52	921948	476	107 - 892	1376	Gln-8 to Ser-16.	AR089: 4, AR061: 2 L0748: 4, L0758: 4, H0457: 3, L0754: 3, S0418: 2, H0253: 2, H0052: 2, S0116: 1, S0356: 1, S0278: 1, H0261: 1, S0222: 1, H0370: 1, H0486: 1, T0082: 1, S0474: 1,		

						H0057: 1, S0050: 1, H0594: 1, H0213: 1, H0553: 1, H0628: 1, H0617: 1, H0040: 1, H0100: 1, H0494: 1, H0207: 1, H0633: 1, L0763: 1, L0770: 1, L0769: 1, L0796: 1, L0642: 1, L0806: 1, L0805: 1, L0789: 1, L0665: 1, S0052: 1, H0144: 1, H0539: 1, H0518: 1, S0152: 1, L0749: 1, L0750: 1, L0777: 1, L0752: 1, L0601: 1, S0192: 1, S0194: 1 and H0506: 1.		
467	HSDJG01	922453	477	100 - 789	1377	Asp-18 to Leu-23, Asp-29 to Phe-34, His-45 to Asn-52, Gln-64 to Tyr-70, Thr-125 to Arg-131, Glu-133 to His-140, Glu-187 to Ile-195, Asn-224 to Phe-229.	AR089: 2, AR061: 2 H0647: 1, H0435: 1, H0518: 1, H0521: 1, S0260: 1 and L0603: 1.		
468	HHEPF30	928000	478	1 - 588	1378	Gly-4 to Glu-10.	AR089: 15, AR061: 7 L0803: 7, L0759: 6, S0358: 4, L0748: 4, L0754: 4, L0749: 4, L0662: 3, H0413: 2,	15q	

H0529: 2, L0805: 2, H0672: 2, L0758: 2, S0040: 1, L0005: 1, S0360: 1, S0045: 1, H0581: 1, H0015: 1, H0083: 1, S0003: 1, L0142: 1, H0628: 1, H0090: 1, L0769: 1, L0667: 1, L0771: 1, L0790: 1, H0693: 1, H0519: 1, S0378: 1, L0745: 1, L0747: 1, L0777: 1, L0755: 1, L0731: 1, L0485: 1, S0026: 1, H0667: 1, S0242: 1, S0196: 1 and H0543: 1.						AR061: 5, AR089: 1 H0253: 11, L0439: 6, L0794: 4, L0809: 4, L0758: 4, H0618: 3, L0766: 3, H0393: 2, L0803: 2, L0783: 2, L0438: 2, H0341: 1, S0420: 1, S0358: 1, S0362: 1, H0510: 1, H0181: 1, L0769: 1, L0542: 1, L0789: 1, H0187: 1, L0743: 1, L0779: 1 and L0777: 1.
			1379				
		1 - 960					
		479					
		929948					
	HTLAB16						
469							

470	HOHCW42	930431	480	2719 - 1634	1380	Glu-12 to Arg-29, Gly-62 to Phe-69.	AR089: 0, AR061: 0 H0255: 4, H0254: 1, H0638: 1, H0587: 1, S0250: 1, H0617: 1, H0547: 1, H0519: 1, S0032: 1, L0591: 1, H0665: 1 and H0216: 1.		
471	HCHNX75	931615	481	1 - 720	1381		AR089: 2, AR061: 2 L0794: 6, L0758: 6, H0599: 4, L0748: 4, L0759: 4, H0620: 3, L0806: 3, L0809: 3, H0547: 3, L0750: 3, L0752: 3, L0731: 3, H0624: 2, H0484: 2, H0549: 2, H0497: 2, H0486: 2, H0052: 2, H0150: 2, L0471: 2, H0181: 2, S0002: 2, H0529: 2, L0517: 2, L0666: 2, H0520: 2, L0757: 2, S0116: 1, S0045: 1, S0278: 1, H0013: 1, L0738: 1, H0050: 1, H0012: 1, H0622: 1, T0023: 1, H0087: 1, T0067: 1, H0494: 1, S0142: 1, S0344: 1, L0763: 1, L0769: 1, L0768: 1,		

L0803: 1, L0650: 1, L0775: 1, L0805: 1, L0776: 1, L0655: 1, L0657: 1, L0658: 1, L0636: 1, L0384: 1, S0052: 1, H0144: 1, S0374: 1, H0519: 1, S0328: 1, H0696: 1, L0439: 1, L0751: 1, L0754: 1 and L0753: 1.	AR061: 10, AR089: 6 H0370: 13, H0620: 7, H0556: 4, L0794: 4, L0617: 3, H0251: 3, H0144: 3, L0438: 3, L0439: 3, L0752: 3, H0265: 2, S0358: 2, S0278: 2, H0486: 2, T0042: 2, S0210: 2, L0518: 2, L0666: 2, H0684: 2, H0134: 2, H0555: 2, L0743: 2, T0002: 1, S0134: 1, S0116: 1, H0484: 1, S0420: 1, H0208: 1, H0052: 1, H0012: 1, S0050: 1, H0015: 1, H0594: 1, S6028: 1, H0031: 1, H0598: 1, H0634: 1, H0264: 1,	Ser-82 to Gly-87.	1382	1342 - 374	482	933093	HBCBA92	472

						H0100: 1, S0464: 1, S0142: 1, L0640: 1, L0763: 1, L0773: 1, L0662: 1, L0768: 1, L0807: 1, L0382: 1, L0789: 1, H0519: 1, S0330: 1, S3014: 1, L0747: 1, L0758: 1, H0216: 1, H0542: 1 and H0543: 1.			
473	HHFJI31	933110	483	3 - 608	1383	Arg-11 to Arg-16, Gln-34 to Arg-40, Ser-119 to Gln-126, Lys-147 to Gly-157.	AR061: 7, AR089: 4 L0777: 8, H0046: 3, H0263: 2, L0803: 2, L0804: 2, S0360: 1, S0045: 1, H0619: 1, H0642: 1, H0013: 1, H0244: 1, H0039: 1, H0591: 1, L0641: 1, L0766: 1, L0517: 1, H0539: 1 and L0779: 1.		
474	HTXNN68	933670	484	1 - 960	1384	Glu-9 to Gly-14, Pro-28 to Cys-35.	AR061: 5, AR089: 2 H0556: 2, L0770: 2, H0395: 1, S0040: 1, H0657: 1, H0194: 1, H0024: 1, L0667: 1, L0766: 1, H0521: 1, L0740: 1, L0779: 1 and L0588: 1.		
475	HWWFW06	933671	485	3 - 533	1385		AR089: 13, AR061: 6 H0556: 2, L0770: 2,		

							H0395: 1, S0040: 1, H0657: 1, H0194: 1, H0024: 1, L0667: 1, L0766: 1, H0521: 1, L0740: 1, L0779: 1 and L0588: 1.		
476	HE2SY77	934771	486	3 - 338	1386	Gln-21 to Trp-32, Lys-81 to Leu-86, Pro-100 to Cys-107.	AR089: 1, AR061: 0 H0624: 1 and S0028: 1.		
477	HSHCO49	934819	487	113 - 766	1387	Ser-1 to Thr-7, Asp-41 to Cys-50, Glu-53 to Gly-61, Asn-89 to Glu-96, Glu-113 to Gln-119.	AR061: 10, AR089: 10 H0519: 1 and S0037: 1.		
478	HMUBI13	937820	488	237 - 899	1388	Phe-10 to Lys-15, Glu-108 to Gly-113, Pro-133 to Lys-142, Glu-152 to Thr-159, Val-196 to Glu-201, Val-216 to Tyr-221.	AR089: 17, AR061: 2 H0521: 5, L0759: 4, S0358: 3, L0757: 3, S0046: 2, H0494: 2, L0662: 2, L0740: 2, H0663: 1, H0638: 1, S0132: 1, H0549: 1, H0586: 1, H0590: 1, H0024: 1, H0083: 1, H0252: 1, H0591: 1, H0551: 1, H0059: 1, H0529: 1, L0389: 1, L0775: 1, L0776: 1, L0665: 1, L0438: 1, H0547: 1, H0435: 1, S0037: 1, L0439: 1,		

479	HBXGL55	938766	489	777 - 1952	1389	Leu-15 to Leu-24, Pro-42 to Asp-54, Ala-123 to Gln-139, Leu-143 to Ala-148, Arg-165 to Asp-170, Arg-176 to Ser-183, Gly-211 to Thr-230, Ser-259 to Asp-268, Gly-309 to Gly-319, Val-326 to Ile-341, Pro-359 to Phe-373, Asp-382 to Asp-392.	L0755: 1, S0434: 1, L0596: 1, L0604: 1, H0667: 1, H0543: 1 and H0422: 1.	AR089: 1, AR061: 1 L0769: 8, L0766: 7, L0771: 6, L0806: 6, H0253: 5, H0135: 4, L0741: 4, L0750: 4, H0295: 3, L0774: 3, L0805: 3, L0439: 3, L0751: 3, L0777: 3, L0755: 3, L0731: 3, H0392: 2, L0471: 2, L0770: 2, L0761: 2, L0740: 2, H0624: 1, H0583: 1, H0484: 1, L0617: 1, S0045: 1, S0278: 1, H0438: 1, H0013: 1, H0706: 1, H0618: 1, H0581: 1, H0544: 1, H0046: 1, H0024: 1, T0010: 1, H0286: 1, H0428: 1, H0622: 1, H0124: 1, H0634: 1, H0264: 1, T0042: 1, L0763: 1, L0800: 1, L0794: 1, L0803: 1, L0804: 1, L0650: 1, L0775: 1,		

							L0659: 1, L0636: 1, L0783: 1, L0789: 1, S0126: 1, H0522: 1, L0779: 1, L0752: 1, L0753: 1 and L0604: 1.			
480	HAFAH26	940254	490	1 - 1053	1390		AR061: 5, AR089: 2 H0643: 2, L0803: 2, S0452: 2, T0049: 1, H0580: 1, H0013: 1, H0156: 1, H0581: 1, H0179: 1, H0271: 1, H0040: 1, S0422: 1, L0369: 1, L0766: 1, L0655: 1, L0607: 1, L0791: 1, H0693: 1, H0670: 1, S0380: 1, H0579: 1, L0777: 1, L0752: 1, S0011: 1 and H0653: 1.			
481	HARMG23	942860	491	1 - 612	1391	Thr-4 to Ser-12.	AR061: 1, AR089: 1 L0777: 3, L0769: 2, S0132: 1, H0592: 1, H0586: 1, H0492: 1, H0004: 1, H0041: 1, H0606: 1, H0038: 1, H0264: 1, S0002: 1, L0371: 1, L0761: 1, L0646: 1, L0794: 1, L0766: 1, L0774: 1, L0664: 1, L0748: 1,			

482	HOFMV44	943224	492	2 - 1138	1392	Val-18 to Lys-23, Arg-158 to Trp-167, Ser-176 to Ser-185, Gly-200 to Tyr-207, Pro-216 to Trp-221, Val-257 to Ser-266, Ile-304 to Val-316, Pro-319 to Thr-325, Thr-350 to Ser-358.	L0751: 1, L0750: 1 and L0779: 1.	AR061: 2, AR089: 2 L0766: 2, L0740: 2, S0356: 1, H0415: 1, H0598: 1, L0803: 1, L0774: 1, L0518: 1, H0539: 1, L0749: 1, L0779: 1 and L0777: 1.		
483	HE9CJ28	949245	493	1506 - 145	1393	Tyr-22 to Gly-40, Glu-56 to Glu-66.		AR061: 1, AR089: 1 H0619: 1, H0549: 1, H0486: 1, H0051: 1, S0250: 1, H0561: 1, S0428: 1, H0144: 1, H0539: 1, L0731: 1, L0592: 1, L0366: 1 and H0667: 1.		
484	HE8AZ89	950713	494	2 - 667	1394			AR089: 1, AR061: 0 H0624: 1, H0013: 1, L0471: 1, S0250: 1, H0038: 1, H0100: 1, T0042: 1, S0150: 1, L0438: 1 and L0592: 1.		
485	HFXKW94	950717	495	190 - 1047	1395	Arg-1 to Gly-6, Thr-74 to Ser-79, Pro-88 to Arg-96.		AR054: 1, AR050: 1, AR089: 1, AR061: 1 S0028: 3, S0222: 2, L0105: 2, S0050: 2, S0390: 2, S0260: 2,		

							H0344: 1, H0381: 1, S0282: 1, H0618: 1, S0051: 1, S6028: 1, H0271: 1, H0383: 1, H0264: 1 and S0038: 1.		
486	HISAF41	951370	496	1681 - 1226	1396		AR061: 1, AR089: 1 L0439: 5, H0529: 3, L0759: 3, S0360: 2, H0024: 2, L0766: 2, L0804: 2, L0779: 2, L0362: 2, H0556: 1, H0656: 1, H0575: 1, H0544: 1, H0015: 1, H0616: 1, H0551: 1, H0412: 1, H0413: 1, L0770: 1, L0662: 1, L0803: 1, L0805: 1, L0655: 1, L0659: 1, L0790: 1, L0665: 1, H0547: 1, H0658: 1, H0539: 1, H0521: 1, L0740: 1, L0745: 1, L0777: 1, L0755: 1, H0445: 1, S0026: 1, H0665: 1 and S0242: 1.		
487	HDPJH11	951371	497	1 - 519	1397	Phe-22 to Thr-27, Lys-71 to Arg-76, Ile-96 to Gly-102, Pro-121 to Trp-133.	AR061: 1, AR089: 1 L0439: 5, H0529: 3, L0759: 3, S0360: 2, H0024: 2, L0766: 2, L0804: 2, L0779: 2,		

						L0362: 2, H0556: 1, H0656: 1, H0575: 1, H0544: 1, H0015: 1, H0616: 1, H0551: 1, H0412: 1, H0413: 1, L0770: 1, L0662: 1, L0803: 1, L0805: 1, L0655: 1, L0659: 1, L0790: 1, L0665: 1, H0547: 1, H0658: 1, H0539: 1, H0521: 1, L0740: 1, L0745: 1, L0777: 1, L0755: 1, H0445: 1, S0026: 1, H0665: 1 and S0242: 1.	
						AR061: 2, AR089: 1 L0439: 5, H0529: 3, L0759: 3, S0360: 2, H0024: 2, L0766: 2, L0803: 2, L0804: 2, L0779: 2, L0362: 2, H0556: 1, H0656: 1, H0575: 1, H0544: 1, H0015: 1, H0616: 1, H0551: 1, H0412: 1, H0413: 1, L0770: 1, L0662: 1, L0805: 1, L0655: 1, L0659: 1, L0790: 1, L0665: 1, H0547: 1, H0658: 1,	
						Lys-18 to Ile-23.	
						1398	
						460 - 218	
						498	
						950792	
						HLHCP93	
						488	

489	HAIBC14	951671	951372	499	876	215 - 796	175 - 717	1399	1776	Lys-10 to Gln-20.	H0539: 1, H0521: 1, L0740: 1, L0745: 1, L0777: 1, L0755: 1, H0445: 1, S0026: 1, H0665: 1 and S0242: 1.
										AR089: 3, AR061: 3 L0766: 8, L0803: 8, H0046: 7, L0740: 7, L0752: 7, L0754: 6, H0318: 5, H0038: 5, H0551: 5, L0659: 5, S0152: 5, H0624: 4, L0471: 4, S0003: 4, L0666: 4, L0747: 4, L0756: 4, H0422: 4, H0556: 3, S0360: 3, S0045: 3, H0586: 3, H0486: 3, H0590: 3, H0581: 3, H0628: 3, L0662: 3, L0794: 3, L0657: 3, L0809: 3, L0790: 3, L0663: 3, L0664: 3, L0665: 3, H0520: 3, H0658: 3, L0439: 3, L0779: 3, L0777: 3, S0026: 3, H0265: 2, H0657: 2, S0212: 2, H0661: 2, S0418: 2, S0376: 2,	10p15	147730

		H0014: 2, H0266: 2, S0214: 2, H0032: 2, H0068: 2, H0163: 2, H0040: 2, L0598: 2, L0520: 2, L0646: 2, L0771: 2, L0805: 2, L0776: 2, L0655: 2, H0519: 2, H0689: 2, H0660: 2, H0648: 2, H0478: 2, L0731: 2, L0758: 2, H0445: 2, L0595: 2, L0601: 2, S0242: 2, S0040: 1, S0402: 1, S0134: 1, S0116: 1, H0341: 1, H0638: 1, S0354: 1, S0408: 1, S0132: 1, H0619: 1, S0278: 1, H0550: 1, S0222: 1, H0431: 1, H0601: 1, H0587: 1, H0250: 1, L0021: 1, H0575: 1, H0251: 1, H0596: 1, T0110: 1, H0150: 1, H0123: 1, H0050: 1, H0267: 1, S0250: 1, H0328: 1, H0615: 1, H0428: 1, L0483: 1, H0553: 1, H0169: 1, S0036: 1, H0090: 1, H0591: 1, H0616: 1,					

							H0413: 1, H0056: 1, T0041: 1, T0042: 1, H0494: 1, S0150: 1, S0210: 1, H0529: 1, L0640: 1, L0763: 1, L0769: 1, L0638: 1, L0667: 1, L0641: 1, L0773: 1, L0521: 1, L0650: 1, L0774: 1, L0606: 1, L0656: 1, L0634: 1, L0636: 1, L0526: 1, L0518: 1, L0783: 1, L0647: 1, L0789: 1, L0791: 1, H0144: 1, H0698: 1, L0438: 1, H0711: 1, H0435: 1, S0328: 1, H0518: 1, H0521: 1, H0555: 1, H0576: 1, L0356: 1, H0631: 1, S0432: 1, S0028: 1, L0744: 1, L0753: 1, L0759: 1, S0260: 1, L0485: 1, L0362: 1, S0011: 1, S0194: 1, S0196: 1, H0542: 1, H0543: 1 and H0423: 1.		
490	HKAJZ24	951676	500	3 - 827	1400	Gly-8 to Phe-18, His-26 to Phe-41, Glu-56 to Gly-62,	AR089: 1, AR061: 1 S0354: 1, S0358: 1, T0039: 1, H0263: 1,		

						Phe-114 to Lys-126, Asn-198 to Ser-203, Asn-234 to Ile-242, Glu-264 to Pro-270.	H0494: 1 and S0440: 1.		
491	HWADY95	951731	501	2 - 514	1401	Arg-15 to Asp-21, Arg-59 to Gly-66, Ile-69 to Glu-74, Lys-82 to Tyr-87, Met-95 to Asp-100, Lys-163 to Arg-171.	AR089: 11, AR061: 3 L0748: 3, H0549: 2, H0144: 2, L0021: 1, H0618: 1, H0318: 1, H0581: 1, H0239: 1, H0510: 1, H0264: 1, L0779: 1, L0758: 1, L0596: 1 and S0106: 1.		
492	HCHAG27	952058	502	3 - 812	1402	Ser-50 to Pro-62, Ala-112 to Ser-125.	AR089: 3, AR061: 1 L0517: 6, L0751: 6, H0370: 4, L0764: 3, L0666: 3, S0007: 2, L0769: 2, L0646: 2, L0664: 2, H0520: 2, H0484: 1, H0483: 1, S0046: 1, H0644: 1, S0036: 1, H0494: 1, S0440: 1, H0538: 1, L0770: 1, L0772: 1, L0773: 1, L0803: 1, L0657: 1, L0659: 1, L0809: 1, H0690: 1, H0684: 1, H0660: 1, H0627: 1, S0027: 1, L0755: 1 and H0707: 1.		
493	HPCRA07	952124	503	701 - 15	1403	Gly-27 to Gly-38,	AR089: 0, AR061: 0		

						Thr-67 to Arg-72, Val-87 to Ser-98, Glu-170 to Gly-176, Lys-190 to Asp-200.			
494	HDMAF23	952729	504	1283 - 219	1404	Arg-6 to Glu-12, Tyr-30 to Thr-35, Val-42 to His-52.	AR089: 6, AR061: 3 S0026: 2, H0638: 1, H0486: 1, H0318: 1, S0214: 1, H0090: 1, T0041: 1, H0494: 1, L0520: 1, L0646: 1, L0666: 1, H0144: 1, S0374: 1, S0146: 1, L0750: 1 and L0485: 1.		
495	HRGBU12	952730	505	3 - 473	1405	Ala-1 to Ser-7, Gln-31 to Leu-46, Arg-49 to Glu-55, Tyr-73 to Asp-79.	AR061: 3, AR089: 3 H0656: 1, H0038: 1, S0210: 1, H0134: 1, H0445: 1 and L0485: 1.		
496	HADFD82	953295	506	16 - 1005	1406	Ala-8 to Pro-23, Ala-25 to Pro-30, Arg-46 to Glu-53.	AR089: 1, AR061: 1 L0766: 7, L0756: 5, H0521: 3, L0777: 3, S0007: 2, H0413: 2, L0761: 2, L0771: 2, L0666: 2, L0748: 2, L0751: 2, H0306: 1, H0402: 1, S0354: 1, S0278: 1, H0441: 1, H0455: 1, H0587: 1, H0486: 1, H0427: 1, H0599: 1, H0581: 1, H0052: 1, H0009: 1,		

							H0024: 1, H0617: 1, H0040: 1, L0763: 1, L0769: 1, L0646: 1, L0650: 1, L0774: 1, L0775: 1, L0651: 1, L0806: 1, L0655: 1, L0659: 1, L0663: 1, L0665: 1, H0593: 1, H0684: 1, H0436: 1, L0754: 1, L0747: 1, L0758: 1, L0366: 1 and H0543: 1.	AR089: 15, AR061: 7 L0747: 6, L0749: 6, L0766: 5, L0775: 5, H0547: 5, L0758: 4, S0358: 3, H0031: 3, L0744: 3, L0759: 3, S0046: 2, L0471: 2, H0616: 2, T0042: 2, L0764: 2, L0774: 2, L0659: 2, L0748: 2, L0740: 2, L0756: 2, L0779: 2, H0668: 2, H0624: 1, H0556: 1, H0661: 1, H0449: 1, H0125: 1, H0351: 1, H0614: 1, H0455: 1, H0438: 1, H0632: 1, H0486: 1, H0590: 1,
				1407				
				1 - 636				
				507				
				954048				
				HCGAF54				
				497				

							T0048: 1, L0563: 1, H0421: 1, H0596: 1, H0546: 1, H0545: 1, H0046: 1, H0620: 1, S0051: 1, H0510: 1, S6028: 1, H0266: 1, S0334: 1, H0286: 1, S0003: 1, H0591: 1, H0561: 1, S0144: 1, S0344: 1, H0529: 1, L0646: 1, L0650: 1, L0375: 1, L0653: 1, L0776: 1, L0657: 1, L0635: 1, L0792: 1, L0666: 1, L0665: 1, S0374: 1, H0689: 1, H0666: 1, H0539: 1, S0380: 1, H0518: 1, S0152: 1, H0134: 1, H0555: 1, L0743: 1, L0439: 1, L0752: 1, L0755: 1, L0757: 1, S0031: 1, L0592: 1, L0581: 1, L0608: 1, L0595: 1, S0026: 1, H0543: 1 and S0424: 1.		
498	HSLGA19	610031	508	1010 - 1654	1408	Asp-5 to Lys-13, Gly-107 to Cys-113, Thr-125 to Leu-131, Lys-146 to Asp-155,	AR054: 12, AR061: 2, AR089: 2, AR051: 1 H0381: 1, H0255: 1, S0052: 1 and S0028: 1.		